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Practitioner Inquiry: Supporting Teachers During a National Pandemic

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PRACTITIONER INQUIRY: SUPPORTING TEACHERS DURING A NATIONAL PANDEMIC

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DEDICATION

I dedicate this dissertation to my beautiful daughters Gracie and Emma, and my husband Scottie. This was a family achievement and we did it! Your constant encouragement, love, and support throughout this process meant the world to me. My hope and prayer for my daughters are to dream big and never give up! My husband, you taking over cooking, cleaning, sports, and all kid duties was nothing short of amazing as we went through this journey. I love you and appreciate you more than you know.

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ABSTRACT

This practitioner inquiry, action research study, purposefully sampled; teachers from a suburban elementary school in the southeastern part of the United States to investigate their overall successes and challenges as they were forced to abruptly change their instruction during the global COVID-19 pandemic to engage students in various learning environments such as face-to-face instruction, hybrid instruction, and virtual instruction. A collaborative practitioner inquiry group intentionally designed professional development based on the successes and challenges indicated by teachers through the use of the Atlas: Looking at Data protocol. Data collection methods consisted of a reflective survey, extensive memoing, and the use of a modified collective teacher efficacy practice profile. In this process, data collection identified collaborative decision-making and collective teacher efficacy attributes that arose as teachers and administrators navigated them to support positive outcomes for both teachers and students. The findings indicated an initial focus on technology logistics, which impeded instruction, then a shift to increased implementation of instructional technology tools. A return to face-to-face instruction deterred the increased implementation of instructional technology tools and led to the return of more traditional instructional strategies. Collective teacher efficacy increased as teachers engaged in reflective conversations regarding their overall successes and challenges. Recommendations and a proposed plan of action for the development and implementation of a school-wide blended learning instructional model at this school are

detailed. This study contributes to the wider educational literature by demonstrating the effectiveness of this methodological approach for conducting research through practitioner inquiry, and by highlighting the relevance of seeking teacher voices when designing professional development opportunities based on their successes and challenges during an unprecedented time.

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LIST OF ABBREVIATIONS

CIG.....Collaborative Inquiry Group

CTE.....Collective Teacher Efficacy

LEAP..... Learning, Engaging, Assessing, and Practicing Week

RCDS.....River County School District

RES..... Riverview Elementary School

SCT..... Social Cognitive Theory

CHAPTER 1

INTRODUCTION

In March 2020, teachers at Riverview Elementary School (RES; pseudonym) left their classrooms unknowingly not to return for the remainder of the school year because of the global COVID-19 pandemic. During this unprecedented time, the closing of U.S. schools and rapid change in the education profession forced RES teachers to closely examine their teaching practices to meet their students' needs. They had to align their teaching with content standards (what students are expected to know and be able to do), assess students' learning, and design the next steps based on their students' needs, processes which all needed to be redesigned in this new learning environment. As inequity of resources across the district became apparent during the COVID-19 pandemic, teachers at RES strived to reach their students in every way possible- despite limitations due to the pandemic's abrupt nature and the impact it had on closing RES.

While teachers at RES continued to exhibit dedication to helping their students achieve success, they had no prior knowledge of instructing in a virtual environment, and no resources were available to support them. The students did not have one-to-one devices (one digital device per child), and teachers had to rely on paper copies of materials to send home to students in packets. Professional development halted due to the immanent need to navigate the uncertainty of the pandemic and the abrupt change to the

instructional model at RES. Parents became teachers as they supported their child's learning through the completion of the packets of work sent home by the teachers.

The focus of the original research was investigating the use of professional development through the data team and lesson study processes to reflect on instructional practices and design intentional instruction based on the students' needs. Prior to the pandemic, the administrative team honored the teachers' autonomy to make instructional decisions and supported them through collaborative decision making. However, in March of 2020, schools shut down and my research stopped due to instruction occurring through paper and pencil packets sent home to students for the remainder of the school year because of the COVID-19 pandemic.

Experiencing the impact of the pandemic on the learning environment, I saw an immediate need to shift the focus of the dissertation to reflect the experiences of teachers during the global COVID-19 pandemic and its impact on instruction. Knowing limited research had been conducted, I wanted to intentionally support the education community by designing a research study focused on the successes and challenges teachers faced during this unprecedented time, the impact on CTE, and the learning administrators experienced when supporting teachers.

As the global COVID-19 pandemic continued, RES prepared to open in the Fall of 2020 using a variety of learning environments, which included full face-to-face instruction, hybrid instruction (i.e., face-to-face and virtual), and full virtual instruction. The district provided students with one-to-one devices to be able to complete their schooling during the various instructional models. Teachers were provided minimal professional development opportunities prior to the start of the school year, drawing from

The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017). The school district and RES also provided time for teachers to select instructional strategies and navigate the plethora of resources available from the various learning platforms used during the school year. However, the shift of instruction to this new learning environment proved to be a daunting task for most teachers.

As the COVID-19 pandemic progressed, teachers' social-emotional well-being became a priority for administrators at RES. Knowing teachers could not endure "one more thing," administrators at RES created dedicated time for teachers to grow professionally together. During this time, teachers focused on students' needs and fostered an atmosphere of collaborative learning where they could readily implement new concepts to improve their instruction. Through these opportunities, teachers at RES engaged in reflective, dialogic learning opportunities with other knowledgeable education professionals as they intentionally used their time to prepare for the school year.

The goal of these professional development opportunities was to value teachers' social-emotional well-being (Schonert-Reichl, 2017) and design professional development in a way that fostered and encouraged teachers' voices (Kahlenberg & Potter, 2014). Through this process, teachers realized they all faced similar challenges, but did not let that deter them. They believed they could help students achieve in measurable ways through their collaborative efforts (Donohoo, 2017). This time and space allowed teachers to share their expertise, struggles, and triumphs with each other. In turn, teachers gained agency (Priestley et al., 2012), felt empowered (Edwards et al., 2002), and acted

purposefully and constructively to direct their personal growth (Beatty, 2000) during this abrupt and necessary transition.

Problem of Practice

When designing instruction for students, teachers have many decisions to make before they can implement classroom instruction (Borko et al., 1990). These decisions include selecting a learning standard, choosing curricular resources, selecting instructional strategies, designing formative and summative assessments, and providing accommodations for students who need them. Faced with all of these decisions, teachers often fall back on the most familiar instructional strategies (Henderson & Dancy, 2007), yet during the pandemic, familiar strategies had to be altered to be implemented in these different learning environments. Everything teachers knew about teaching and learning changed. The problem of practice I sought to investigate through this study was the successes and challenges teachers faced as they engaged in professional development opportunities and collaborative decision making; and the impact on collective teacher efficacy (CTE) as teachers abruptly changed their instruction for students during the global COVID-19 pandemic through face-to-face instruction, hybrid instruction, and virtual instruction.

As policymakers and the broader public have pressed schools to achieve more ambitious and complex goals, school leaders, in turn, have pressed teachers to collaborate in the service of those goals (Little, 1990). Before the 2020–2021 school year, the teachers at RES had intentional time to plan together, have conversations about the work they needed to design for students, celebrate successes, and analyze learning opportunities through collaborative decision-making opportunities (Leana, 2011). During

the COVID-19 pandemic, these characteristics of the overall school culture needed to continue.

As the U.S. Department of Education Office of Planning, Evaluation, and Policy Development (2009) indicated, schools and districts have struggled to identify and implement effective professional development practices that lead to transformed instruction and increased student achievement. District and school leaders at RES tried to be intentional with the professional development model created to support teachers during the COVID-19 pandemic. Before the start of the school year, teachers throughout the district explored the professional development modules provided by the district that focused on *The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting* (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017). These resources suggested how teachers could provide instruction in various learning environments. However, teachers had no prior knowledge to make connections to the content of these resources (Gülbahar, 2008).

The administrators at RES recognized the need for teachers to have dedicated time to grow professionally together, focus on students' needs, and foster an atmosphere of collaborative learning where teachers could readily implement new concepts to improve their instruction within these various learning environments (DeMonte, 2013). Dialogic, collaborative learning (Bandura, 1977) has always been a part of the culture at RES. By providing teachers time and space, I fostered opportunities for teachers to exhibit characteristics of CTE as collaborative decisions were made and reflection on their successes and challenges happened.

As teachers experienced agency and voice in these collaborative professional development opportunities, the administrative team learned how to support them during this new journey. This practitioner inquiry research study was an opportunity to purposefully observe and examine the characteristics of the successes and challenges teachers experienced and the collaborative decision-making conversations teachers engaged in at RES, given the abrupt change in their profession and teaching environment. Specifically, as a participant-researcher, I sought different types of qualitative data to investigate the collaborative decision-making conversations, CTE, and the common successes and challenges identified by teachers when they were required to change their practice during the global COVID-19 pandemic.

Theoretical Framework

The theoretical framework for this investigation was inquiry as stance. Researchers hold inquiry as stance as a grounded theory of action that situates the role of practitioners and practitioner knowledge as primary to the goal of transforming teaching, learning, leading, and schooling (Cochran-Smith & Lytle, 2009). Cochran-Smith and Lytle (2009) proposed inquiry as stance can be thought of as a theory of action grounded in the problems and contexts of practice, as well as the ways practitioners collaborative theorize, study, and act on those problems in the best interests of the learning and life chances of students and their communities. I chose this theoretical framework because "inquiry as stance conjoins theories of how to change things with theories of what needs to change and indeed assumes that these are inseparable" (Cochran-Smith & Lytle, 2009, p. 123). Using this framework allowed me to place practitioner knowledge and their

interactions with students and other stakeholders as the central focus of this research and educational transformation (Cochran-Smith & Lytle, 2009).

Through inquiry as stance, I used a qualitative practitioner inquiry methodology to investigate the specific successes and challenges teachers focused on during collaborative decision making as they were required to abruptly change from face-to-face learning to hybrid and virtual learning, and its impact on CTE. As an administrator at RES, I invited fellow administrators, teacher leaders, and a local university liaison to form a collaborative inquiry group (CIG) to analyze ongoing data patterns and collaboratively plan future professional development based on the teacher's individual needs in conjunction with support materials provided by the school and the district.

Inquiry methodologies are used for the systematic, intentional study of one's professional practice (Cochran-Smith & Lytle, 1993; Hubbard & Power, 1993). According to Hartog (2004), "The nature of the shared experience forges a collective identity and bond in the formation of inclusion in a community of practice" (p. 163). Developing an inquiry stance encourages teachers to continue to learn, create culturally relevant curricula, ask critical questions, and apply inquiry teaching to their practices (Ball & Cohen, 1999; Cochran-Smith & Lytle, 2009; Edwards et al., 2002).

To conceptualize the critical role of teachers' knowledge and actions in student learning, school change, and educational reform (Cochran-Smith & Lytle, 2009), I observed teachers during collaborative decision-making opportunities using an observation tool to examine characteristics of CTE (MO EDU-SAIL, n.d.). Weekly reflection forms offered opportunities to examine the successes and challenges teachers experienced as they abruptly changed their practice, allowing the CIG to design

intentional professional development opportunities to support their learning opportunities during the global COVID-19 pandemic.

Bandura (1986) defined collective efficacy as a team's shared belief in its combined capabilities to attain their goals and accomplish desired tasks. Collective efficacy also involves the thinking or perception that effective collective action is possible to address a problem (Bandura, 1986). As teachers engage in CTE (Hattie, 2016), they are collaboratively making decisions based on the students' needs by examining data and student work while engaging in professional learning with their colleagues. Teachers have also been participating in collaborative teacher inquiry, which is the search for knowledge and solutions through the systematic, intentional study of practice and connected to CTE (Cochran-Smith & Lytle, 1993; see Figure 1.1).

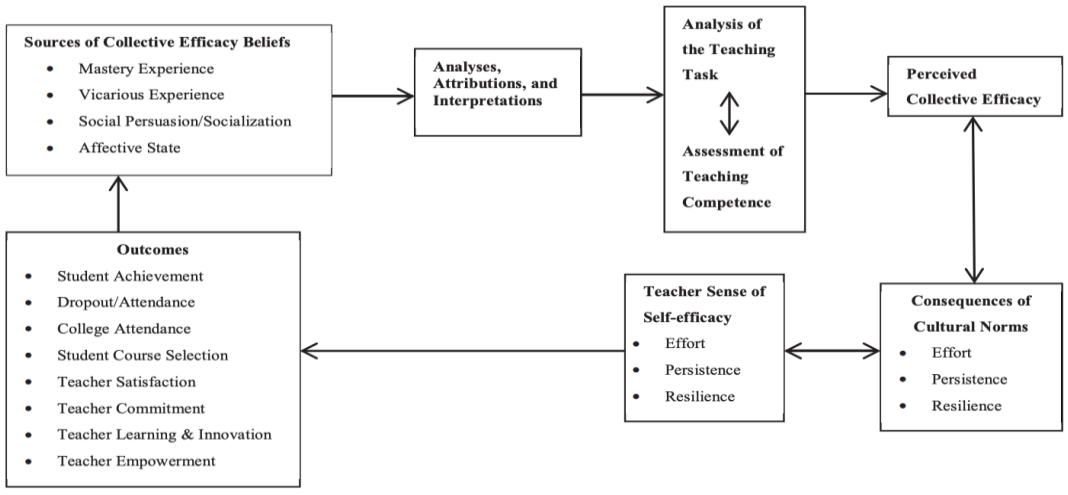

Figure 1.1 *Proposed Model of the Formation, Influence, and Change or Perceived Collective Efficacy in Schools.* Reprinted from "Collective Efficacy Beliefs: Theoretical Developments, Empirical Evidence, and Future Directions," by R. D. Goddard, W. K. Hoy, & A. W. Hoy, 2004, *Educational Researcher, 33*(3), p. 11.

Through the process of collaborative teacher inquiry, teachers study learning in search of deeper understanding and evidence of impact; work together to tackle challenges of professional practice by questioning what they already know and do; and reflect on evidence and what it says about the effect on student learning (Cochran-Smith & Lytle, 1993). During collaborative teacher inquiry, teachers have a formal structure (e.g., meeting times, teams, and process are defined), build consensus around compelling problems of instruction, involve collaborative collection and analysis of data relevant to the identified problem of instruction, develop a collective commitment to a plan to address student needs, evaluate the plan and make further adjustments, and improve their understanding and teaching practices (Babione, 2015).

Educators want to positively impact students and employ the belief that they can be the ones to make a difference through planning and collaborative decision making (Babione, 2015). Through this planning and collaborative decision making, teachers exhibit qualities of CTE, the perception that their efforts will have a positive effect on students (Hattie, 2018). According to Hattie (2018), CTE has the largest effect size influencing student achievement. In schools with high levels of CTE, teachers exhibited the following: ability to tackle difficult challenges, set challenging goals and stay committed to those goals, put more effort into planning, had an openness to new ideas, worked collaboratively, were resilient, and were more committed (Brinson & Steiner, 2007; Donohoo, 2017; Hattie, 2018).

Before the COVID-19 pandemic, teachers at RES engaged in data teams (Allison et al., 2010) and lesson studies (Babione, 2015), which provided intentional time to think and talk about curriculum through collaborative decision-making conversations. These

professional development opportunities moved teachers away from isolation and more toward a collaborative inquiry where they relied on others' knowledge for critical feedback on their (Chokshi & Fernandez, 2004). Teachers became risk-takers and overcame their self-consciousness (Stewart & Brendefur, 2005) by engaging in an inquiry as stance framework to address issues they felt were important. However, the COVID-19 pandemic required these professional development opportunities to be modified into a virtual environment. This information was essential for this study because the RES culture was one that fostered teacher agency and voice, which continued during the COVID-19 pandemic.

Research Questions

The purpose of this practitioner inquiry research study was to identify the specific successes and challenges that were most common as teachers were required to change their instruction during the global COVID-19 pandemic. In this process, data collection also identified collaborative decision-making attributes and the successes and challenges that arose as teachers and administrators navigated the transition to support positive outcomes for both teachers and students. Babione (2015) suggested teachers uncover dissonance or discrepancies as they reflect on their practice. Through this process new levels of stress and discomfort arise, which results in a deepened self-reflection and more sophisticated possibilities for creating positive change (Babione, 2015).

As a participant researcher, I conducted an investigative action research study (Merriam & Tisdell, 2016) to learn about these collaborative decision-making attributes. Practitioner inquiry (Babione, 2015), one form of investigative action research, was selected as the specific methodological approach for this study. This approach offered me

an immersive, first-hand experience to learn with and from participants (Babione, 2015). To this end, data collection focused on a qualitative practitioner inquiry research design. The following research questions guided this study:

1. What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?
2. How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?

These research questions helped me to investigate the most common successes and challenges as teachers were required to abruptly change their instruction during the global COVID-19 pandemic, and investigate collaborative decision making and its impact on CTE during professional development opportunities. By examining these professional development opportunities and other qualitative data collected during this study, I observed what teachers focused on when reflecting on their practice as they were required to dramatically change from a face-to-face instructional model to a hybrid or virtual instructional model.

Researcher Positionality

After being a teacher for 13 years before moving into my administrative role, I understand the overwhelming number of things teachers must consider every day. The day-to-day duties of managing students, mounds of paperwork, and not having enough time to do everything that needs to get done can be daunting. Through collaborative decision making, I grew as an educator, learned ways to maximize my time during the day, and intentionally planned instruction to meet all of my students' needs. As an

instructional coach, I learned which resources were more efficient and which ones I needed to avoid. I learned even more from the outstanding educators and colleagues with whom I had the good fortune to work by observing their teaching, collaborating on designing work for students, and reflecting on best practices. Through these experiences, I refined my craft and helped other educators do the same.

As teachers embrace the disposition of inquiry, they reflect, share, and communicate their professional work with one another (Burney, 2004; Zeichner, 2009). As an administrator, I use all of my past experiences and knowledge to guide school-wide endeavors focused on the success of all students and the implementation of district and state initiatives. My positionality in this research related to the problem of practice is one of participant–researcher. The goal was to encourage teachers to move from working as isolated individuals toward a collaborative community; engage teachers in learning and change; work toward influencing organizational change; and offer personal, professional, and institutional transformation (Herr & Anderson, 2015). I focused on two areas: supporting teachers and positive outcomes for students.

As a reflective practitioner, I sought to "learn to learn" about my practice (Schôn, 1983). Through this practitioner inquiry study, learning became both a form of professional development for me and provided data on how practitioners learn and grow in a professional context (Herr & Anderson, 2015). Understanding my positionality and thinking through the implications of it is extremely important. Insiders, because they are often true believers of their particular practices, are too often tempted to put a positive spin on their data (Herr & Anderson, 2015). Therefore, I deployed mechanisms for dealing with biases in this qualitative action research study.

Research Design

Action research in the form of practitioner inquiry supported the purpose of investigating the successes and challenges that were most common as teachers were required to abruptly change from face-to-face learning, hybrid, and virtual learning; as well as the attributes of collaborative decision making and CTE exhibited during professional development opportunities. During this research study, I used a qualitative practitioner inquiry methodology. Practitioner inquiry is a qualitative research approach to provide insight into individuals, schools, and communities (Babione, 2015). It is useful for examining participant relationships and their actions, attitudes, motivations, and stressors in organizational settings (Babione, 2015).

To begin the research study, I analyzed open-ended Google Form surveys to gather data on teachers' successes and challenges as they engaged in various professional development and teaching opportunities before the beginning of the 2020–2021 school year. The district provided professional development opportunities focused on *The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting* (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017). The teaching opportunities teachers engaged in before the school year were during Learning, Engaging, Assessing, and Practicing Week (LEAP). LEAP provided all students at RES the opportunity to come to school for 1 day before the school year began. Visiting before the school year began allowed teachers and students the opportunity to meet, get acquainted with the school, and experience the new protocols put in place due to the COVID-19 pandemic. The Google Form open-ended surveys and an open Padlet was provided to teachers during

LEAP week. Padlet is an online digital collaborative tool that provides users an interactive space to share their thoughts (see Appendix A). These tools provided teachers with an opportunity to reflect on their successes and challenges during these experiences.

Since these experiences were before the start of the school year, teachers could use these experiences to prepare for the school year. This exposed teachers to these platforms, technology tools, and designs of virtual instruction. A late start to the school year provided teachers more time to prepare for hybrid instruction. Hybrid instruction involved 2 days of face-to-face instruction, a half-day of virtual instruction with a half-day of planning time, and 2 full days of virtual instruction.

As the participant researcher, I coded the data from the open-ended Google Form surveys for themes and patterns. Descriptive coding was used to code the teachers' responses. These descriptive codes aligned with content from *The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting* (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017). The descriptive codes from the open-ended Google Form survey and the content from the two books were used to create a weekly reflection Google Form survey for the teachers, which the CIG analyzed to design collaborative professional development for teachers at RES based on the successes and challenges indicated in their reflective responses.

The Google Form survey was distributed to teachers weekly through email. As the data were analyzed, teachers were placed in affinity groups based on their responses, and then professional development was designed around their needs. Affinity grouping is a teaching technique that involves brainstorming and group organization of ideas

(Barkley et al., 2014). This technique allowed collaborative professional development to be generated using the successes and challenges indicated by the teachers. This technique helped unpack a complicated issue and build group consensus (Barkley et al., 2014). For this study, teachers brainstormed and reflected on their successes and challenges as they engaged in dialogic learning and collaborative inquiry during professional development opportunities while enduring the global COVID-19 pandemic. Through these experiences, teachers were provided intentional support based on their needs.

A modified version of the CTE Practice Profile (see Appendix B) was used as an observation tool when observing the affinity groups engaged in dialogic learning and collaborative decision-making conversations during the collaborative professional development opportunities (MO EDU-SAIL, n.d.). The CTE Practice Profile was modified to focus on four main sources of efficacy identified by Bandura (1994): (a) mastery experience, (b) vicarious experience, (c) social persuasion, and (d) affective state. The mastery experience refers to when teachers directly experience success and is the most substantial source that builds self-efficacy (MO EDU-SAIL, n.d.). The vicarious experience happens when teachers observe other teachers succeed and transfer a sense that they, too, can succeed. This could be from direct observation, watching videos, collaboration, and reading about a strategy, skill, or practice (MO EDU-SAIL, n.d.). Social persuasion occurs when a trustworthy source expresses confidence, gives specific feedback or encouragement, or offers support (MO EDU-SAIL, n.d.). Finally, affective states are moods, feelings, and attitudes of an organization (MO EDU-SAIL, n.d.). The modified CTE Practice Profile also included information regarding social networks and the teacher's voice, which Bandura (1994) identified as ways teachers can exhibit CTE.

The CTE Practice Profile was modified as a note catcher so the observer could qualitatively describe each of the four primary sources of efficacy observed as they related to CTE.

The administrative team, teacher leaders, and a local university liaison engaged in a CIG throughout this research. As I analyzed data from the affinity groups and weekly reflection Google Form surveys, the CIG also met weekly using the Atlas: Looking at Data protocol (see Appendix C) to analyze data descriptively and inferentially (Venables, 2011). The CIG followed the Atlas: Looking at Data protocol so everyone had equal participation when observing the data collected from the weekly reflection Google Form surveys and notes collected from the modified CTE Practice Profile.

By detailing the design of this action research study, other schools will be able to use the same practitioner inquiry process to foster reflective opportunities regarding the successes and challenges teachers experienced during the COVID-19 pandemic and attributes of collaborative decision making observed in various professional development opportunities. The intentional design of the professional development opportunities valued teacher agency and voice as teachers abruptly changed their instructional model.

Significance of the Study

This practitioner inquiry study's value to the educational community is the results describe the impact of reflective opportunities to foster collaborative decision making and intentional support provided to teachers during the global COVID-19 pandemic. Through this research study, I also illustrated what happens when administrators engage in collaborative practitioner inquiry focused on learning from and with teachers. School leaders can use the data outlined in this research study to increase CTE, improve the

fidelity of implementing affinity groups, and positively impact organizational learning that reflects opportunities for teacher agency and voice.

Even though the global COVID-19 pandemic caused drastic modifications to many professional development opportunities at RES so they could be implemented in a virtual environment the advanced preparation and deliberate design of these opportunities helped in overcoming those obstacles. The results illustrate a process that other school leaders could adapt as individual schools and districts improve their reflective opportunities to provide intentional professional development, engage in collaborative decision making, examine CTE, and use various blended learning instructional strategies to impact student success during a pandemic positively.

Limitations of the Study

During this research study, the global COVID-19 pandemic forced teachers to change their instructional model abruptly. This study's specific findings may have limited generalizability as the sample population was limited to one elementary school and a small group of teachers within the school. Lincoln and Guba (1985) suggested the notion of transferability when findings are not generalized. In this instance, Lincoln and Guba advised accumulating empirical evidence about contextual similarity and the responsibility of the original investigator ends in providing sufficient descriptive data. The elementary school that is the focus of the study provided teachers with protected planning time to intentionally foster collaborative conversations through professional development opportunities, which many schools may not provide.

The practitioner inquiry research completed in this study was in conjunction with the school-wide professional development plan and overall district initiatives, potentially

limiting the study. Appendix D provides a calendar outlining the timeline for this research study. Due to district-mandated professional development on certain days, the school did not have the autonomy to provide continuous and consistent professional development outlined in this study. The professional development could only occur on specific days not already outlined by the district professional development plan.

Organization of the Dissertation

The research for this practitioner inquiry study was conducted at an elementary school located in a suburban area of a southern state during the 2020–2021 school year. I implemented a qualitative methodology using a practitioner inquiry research approach to investigate the common successes and challenges teachers were required to change from face-to-face learning to virtual learning abruptly.

The data sources included a Google Form survey with open-ended qualitative responses to defined Likert scale responses, data from the modified CTE Practice Profile, and extensive memo notes from the Atlas: Looking at Data protocol used by the CIG. As a participant–researcher, I engaged in inquiry to foster positive organizational learning, increase collaborative decision making, and strengthen CTE. The research design to examine teachers' successes and challenges was specifically used to make a positive change in instruction; specifically, to use intentionally designed professional development to engage teachers in collaborative decision making and opportunities to increase CTE.

I organized the dissertation into five different chapters. Chapter 1 provided an introduction to the research study conducted. Chapter 2 consists of the literature review. Chapter 3 will outline my argument for the research design of the study and provide a

detailed description of the procedures I took to enact the study. Chapter 4 reports the research study's primary results and findings. I also present the qualitative data, provide a detailed analysis, interpret the data, and share key findings and conclusions based on the overall results. Chapter 5 is where I reflect on the study in its entirety.

Glossary of Terms

- **Affinity Groups**: Groups organized in formal and intentional ways to occupy a space and time, establish ground rules for the group, and lead by thoughtful discussions (Taylor, 2019).
- **Agency:** The capacity of teachers to act purposefully and constructively to direct their professional growth and contribute to the growth of their colleagues (Cochran-Smith & Lytle, 2001).
- **Blended Learning:** Learning that comes through a mix of face-to-face instructional time and digital instructional tools (Kieschnick, 2017).
- **Collaborative Decision Making:** When leaders provide opportunities for shared leadership by affording others the power to make decisions that can benefit an organization (Donohoo, 2017).
- **Collective Teacher Efficacy (CTE)**: The collective belief of teachers in their ability to positively affect students (Hattie, 2018).
- **Face-to-Face Instruction:** An instructional method where course content and learning material are taught in person to a group of students. This allows for a live interaction between a learner and an instructor (Kieschnick, 2017).
- **Hybrid Instruction:** An instructional method using both virtual instruction and face-to-face instruction (Shea et al., 2015).

- **Inquiry as Stance**: A theory of action grounded in dialectical relationships, problems, contexts of practice, and ways practitioners collaboratively theorize, study, and act on problems in the best interest of the learning and life chances of students and their communities (Cochran-Smith & Lytle, 2009).
- **Practitioner Inquiry:** Systematic intentional inquiry by teachers about their own school and classroom work (Cochran-Smith & Lytle, 2001).
- **Virtual Instruction:** An instructional method that uses computer software, the internet or both to deliver instruction to students. This minimizes or eliminates the need for teachers and students to share a classroom (Van Beek, 2011).
- **Voice**: The values, opinions, beliefs, perspectives, expertise, and cultural backgrounds of the teachers working in a school (Cochran-Smith & Lytle, 2001).

CHAPTER 2

REVIEW OF LITERATURE

As introduced in Chapter 1, the purpose of this action research study was to investigate the common successes and challenges at Riverview Elementary School (RES) as teachers were required to abruptly change from face-to-face learning to virtual learning through practitioner inquiry. The problem of practice investigated was the successes and challenges teachers faced as they engaged in professional development opportunities and collaborative decision making, and the impact on collective teacher efficacy (CTE) during this time. Inquiry as stance was the guiding theoretical framework organizing this investigative action research study. Much current and past research has investigated particular topics of CTE (Hattie, 2012), including collaborative decision making (Airola et al., 2011) and the importance of professional development opportunities for teachers (Takahashi & Yoshida, 2004), indicating the need for a joint investigation of these topics due to the problem of practice. This study is joining the widespread surge of research focusing on the impact the global COVID-19 pandemic has had the successes and challenges experienced by teachers and the impact on collective teacher efficacy.

This literature review is organized by the different topics related to my problem of practice, and includes different sections focused on my research questions. This chapter presents essential concepts about the study, including inquiry as stance, practitioner inquiry, CTE, and collaborative decision making. Also reviewed throughout this chapter

are challenges teachers may experience during this process, historical perspectives, and social justice articulated by the opinions and viewpoints of teachers, which are embedded in each section.

Purpose of the Literature Review

The following review of related literature illuminates the successes and challenges experienced by teachers at RES as they dramatically and quickly changed their teaching environment from face-to-face learning to virtual learning while also defining the overarching theoretical framework of inquiry as stance. As educators and administrators engage in collaborative practitioner inquiry, they also exhibit many components of Bandura's (1977) social cognitive theory and Vygotsky's sociocultural theory (1978), which are defined and highlighted in this chapter.

Strategies for searching relevant literature included accessing computer databases such as ERIC (Education Resources Information Center), Google Scholar, and professional journals such as *Journal of Education for Students Placed at Risk*, *Journal of Experimental Education*, *American Education Research Journal*, and the *American Journal of Education,* in addition to books. Descriptors and key terms used for this literature search included inquiry as stance, collaborative practitioner inquiry, collaborative decision making, and CTE. The literature review is significant to the study because it provides an integrated synopsis of theories that provide a basis for this research.

Inquiry As Stance: Collaborative Practitioner Inquiry and Collaborative Decision Making

The grounding fundamentals of practitioner inquiry are when teachers investigate their questions about instructing students and facilitate classroom change based on the knowledge gained from their investigations (Babione, 2015). Inquiry as stance fosters a closer understanding of knowledge-practice relationships, how inquiry produces knowledge, and what practitioners learn from inquiry within communities (Cochran-Smith & Lytle, 2009). As teachers engage in collaborative conversations, they can learn from their own experiences and others' experiences (Copeland et al., 1993; Reiman, 1999).

Educational practice is not merely instrumental in the sense of figuring out how to get things done, but also and more importantly, it is social and political in the sense of deliberating about what to get done, why to get it done, who decides, and whose interests are served (Cochran-Smith & Lytle, 2009). Cochran-Smith and Lytle (2009) posited:

> Working from and with an inquiry stance, then, involves a continual process of making current arrangements problematic; questioning the ways knowledge and practice are constructed, evaluated, and used; and assuming that part of the work of practitioners individually and collectively is to participate in educational and social change. (p. 121)

Inquiry as stance is designed to be more qualitative, open-ended, reflective, and collaborative, engaging with students, other teachers, and the community. By disconnecting from the norms of professional isolation, educators reconnect and capture others' rich descriptive perspectives (Babione, 2015).

As teachers move from silos to more of a collaborative approach to teaching, collaborative practitioner inquiry begins to form, and teachers develop an empathetic understanding of others (Babione, 2015). An inquiry as stance framework changes traditional ways of conceptualizing teaching and teacher development (Cochran-Smith & Lytle, 2009) by (a) using a theory grounded in the dialectic of inquiry and practice; (b) repositioning the collective intellectual capacity of practitioners; and (c) transforming teaching, learning, leading, and schooling (Cochran-Smith & Lytle, 2009, p. 126). Teachers then become knowledge generators and shift the control of the teaching profession's knowledge base to teachers taking the risk to critically analyze teaching areas that directly impact students (Babione, 2015). Inquiry methodologies provide the systematic, intentional study of one's professional practice (Cochran-Smith & Lytle, 1993; Hubbard & Power, 1993). Cochran-Smith and Lytle (1999) argued an inquiry stance could be supportive for all teachers by stating:

> Teaching is a complex activity that occurs within webs of social, historical, and political significance. Across the lifespan, we assert that an inquiry stance provides a kind of grounding within the changing culture of school reform and competing political agendas. […] Teachers and student teachers who take an inquiry stance work within inquiry communities to generate local knowledge, envision and; theorize their practice, and interpret and interrogate the theory and research of others. (pp. 288–289)

Babione (2015) defined effective teachers as those who develop habits of inquiry, either individually or collaboratively, seeking to understand themselves and others. As teachers engage in the inquiry process, they propel change and take ownership of the knowledge

they create to positively impact the quality of education (Mullen, 2004). Due to the abstract and complex nature of identifying inquiry as stance, Cochran-Smith and Lytle (2009) developed the following four dimensions of inquiry as stance:

- Knowledge: Inquiry as stance is grounded in the belief in the central position of practitioners as knowers and in the transformative power of local knowledge in justice-related efforts to improve students' learning and enhance their life chances (p. 127).
- Practice: The interplay of teaching and learning, the synergies of learning and leading, the synthesis of theorizing and acting, and the continuous reinvention of ways of connecting to and allying with colleagues, parents, and communities (p.132).
- Communities: The primary medium or mechanism for enacting the theory of action proposed to improve the cultures of practice, enhance students' learning and life chances, and ultimately, help bring about educational and social change (p. 140).
- Democratic purpose and social justice ends: Circles all other areas to create a more just and democratic society (p. 146).

When teachers work from an inquiry stance, they engage in an ongoing process problematizing fundamental assumptions about existing educational practices and raise difficult questions in order to enhance students' learning and life chances for participation in and contribution to a diverse and democratic society (Cochran-Smith & Lytle, 2009). Teachers with an inquiry stance perspective view change as the only constant and use it to propel their innovative and equitable teaching and learning (Currin, 2019).

Educators have varying professional development needs and learning opportunities. Teachers bring a variety of expertise and experiences to their classrooms to create the foundation of who they are as an educator. Teachers' professional development needs change throughout their teaching career as education changes (Wright, 2009). Creating professional development tailored to teachers' individual needs has been essential and provides authentic solutions that positively impact teachers' classrooms (Reyes, 1990).

When teachers determine areas they would like to improve based on reflections from their teaching practice (Cochran-Smith & Lytle, 2009), data from student work, and/or feedback from other professionals (Hattie, 2018), they can intentionally investigate their teaching practice and design the next steps to improve their craft (Cochran-Smith & Lytle, 2009). Many studies have illustrated when initiatives are teacher-led as opposed to a top-down approach, teachers are more willing to take the initiative for their learning to address the needs of their students (Frost & Durrant, 2002; Muijs & Harris, 2006). Teachers have proven they can reflect on their classroom practices, target areas of improvement, and provide authentic solutions (Cochran-Smith & Lytle, 1999; Nelson et al., 2012). Collectively, teachers use their voices to reflect, think critically, and design professional development (Babione, 2015). Inquiry-oriented action research empowers teachers to join critical policy conversations (Meyers & Rust, 2003; Rust & Meyers, 2007; Sinnema et al., 2017) and make authentic contributions toward social, communal, and educational transformation (Ravitch, 2014).

Many issues impact classroom instruction, such as poverty, racism, inadequate funding, and failed policies; however, research has shown effective teachers are the most

essential thing impacting student achievement (Babione, 2015). Students who were placed with effective teachers for 3 years in a row significantly outperformed comparable students on a mathematics assessment (96th versus 44th percentile; Stronge & Hindman, 2003). Research conducted for The National Comprehensive Center for Teacher Quality (Goe et al., 2008) synthesized teacher effectiveness in the following five points:

- Effective teachers have high expectations for all students and help them learn.
- Effective teachers contribute to positive academic, attitudinal, and social outcomes for students.
- Effective teachers use diverse resources to plan and structure engaging learning opportunities' monitor student progress formatively, adapting instruction as needed; and evaluate learning using multiple sources of evidence.
- Effective teachers contribute to the development of classrooms and schools that value diversity and civic-mindedness.
- Effective teachers collaborate with other teachers, administrators, parents, and education professionals to ensure students' success.

Practitioner inquiry methodologies foster a culture of inquiry where teachers engage in problem-solving strategies and move away from the habitual ways of thinking and organizing the workplace (Babione, 2015). By doing this, curriculum and instruction are elevated to a new level of professional work, and student learning is positively impacted (Babione, 2015). The inquiry as stance framework makes teaching more challenging by fostering deep, professional learning (Cochran-Smith & Demers, 2010). Teachers question, systematically study, and subsequently improve their practice as they engage in

the inquiry as stance framework (Dana & Yendol-Hoppey, 2008). This work subsequently improves practice and becomes a necessary and natural part of a teacher's work (Cochran-Smith & Lytle, 2001; Dana, 2015; Dana & Yendol-Hoppey, 2008; Klehr, 2009; Lieberman & Pointer Mace, 2010).

Problem-solving and reflective practices are inquiry roles that contribute to teachers' open-mindedness (Dewey, 1933). Reflective actions in school settings were identified by Zeichner and Liston (1996) as (a) examining and attempting to solve dilemmas in classroom practice, (b) being aware and questioning one's assumptions and values, (c) being attentive to institutional and cultural contexts, (d) taking a role in curriculum development and school change efforts, and (e) taking responsibility for one's professional development. Reflection can also uncover dissonance or discrepancies that create stress and discomfort, and deepen reflexivity and more sophisticated possibilities for action (Babione, 2015). This dissonance can have positive consequences and hold clues to understanding change (Babione, 2015). Inquiry as stance pushes an inquirer to exhibit critical self-awareness, courage, confidence, and connections between their reflections and the larger sociopolitical world (Benade, 2015; Cochran-Smith & Lytle, 2009; Pine, 2009; Schaenen et al., 2012).

Practitioner teacher inquiry has increased classroom teacher exposure to new ideas and experiences. Communication and the collective examination of assumptions about curriculum and instruction have promoted the growth of shared knowledge as teachers have collectively explored and made meaning of what it is to be a teacher (Babione, 2015; Schaenen et al., 2012). Teachers need to reflect, share, and communicate

their work with one another to embrace the process of collaborative practitioner inquiry (Burney, 2004; Zeichner, 2009).

Social Cognitive Theory

CTE (Hattie, 2018)—teachers' perceptions that the efforts of the faculty as a whole will have a positive effect on students—is based on Bandura's (1977, 1986, 1997) social cognitive theory (SCT), a unified theory of behavior change (Goddard et al., 2000). The social portion of the title acknowledges the social origins of much human thought and action; the cognitive portion recognizes the influential contribution of cognitive processes to human motivation, affect, and action (Bandura, 1995).

SCT broadened the scope of modeling influences, which altered motivation, created and modified emotional proclivities; served as social prompts that activated, channeled, and supported given types of behavior; and shaped images of reality (Bandura, 1995). However, SCT acknowledged personal agency operates within a broad network of sociostructural influences. Thus, the theory extends the analysis of human agency mechanisms to the exercise of collective agency—people's shared beliefs they can work together to produce effects (Goddard et al., 2000).

SCT adopts an agentic perspective on human development, adaptation, and change. The theory distinguishes between three models of agency: (a) personal agency exercised individually; (b) proxy agency, in which people secure desired outcomes by influencing others to act on their behalf; and (c) collective agency, in which people act in concert to shape their future (Bandura, 2002). To be an agent is to influence intentionally one's functioning and life circumstances (Bandura, 2002). Human adaptation and change are rooted in social systems. Personal agency operates within a broad network of

sociostructural influences, which embody rules, resources, and social sanctions designed to organize, guide, and regulate human affairs (Bandura, 2002). Personal agency and social structure operate as interdependent determinants in an integrated causal structure rather than disembodied duality (Bandura, 1997; Giddens, 1984).

In personal agency, exercised individually, people bring their influence to bear directly on themselves and their environment in managing their lives (Bandura, 2002). However, many people do not have direct control over their social conditions and institutional practices that affect their everyday lives. Therefore, people try to get those who have access to resources and expertise; or wield power to secure outcomes they desire. Proxy agency incorporates others' positive outcomes within a person's practices. Collective agency involves people working together to achieve goals for improving their quality of life. People do not live their lives in isolation. Many of the things they seek are achievable only through a socially interdependent effort. Bandura (2002) posited, "They have to pool their knowledge, skills and resources, provide mutual support, form alliances, and work together to secure what they cannot accomplish on their own" (p. 270). Teachers in this study exhibited all of these strategies while engaging in an inquiry as stance to alter what they knew about teaching and learning to support students and each other during a national pandemic.

Beliefs individuals have about themselves rest at the root of social cognitive theory (Bandura, 1982, 1986, 1997) and influence motivation, effort, and the level of challenge in goals (Klassen et al., 2011; Tschannen-Moran et al., 1998). An individual involved in collaborative inquiry is empowered to improve on their efficacy beliefs (Bandura, 1997), which are influenced by mastery experiences, vicarious experiences,

verbal (i.e., social) persuasion, and physiological and affective state. Mastery experiences are the most influential in elevating an individual's perceived efficacy (Bandura, 1997), which allows continuous success in activities pertinent in developing an individual's sense of efficacy and leads to proficiency. When implementing change within a classroom, teachers will build efficacy for new tasks if they experience success (Bandura, 1994; Hoy et al., 2003). Building efficacy will lead to motivation to further embrace change, which supports inquiry as stance as teachers investigate their teaching practice and design next steps to improve their craft (Bandura, 1994).

Vicarious experience positively impacts efficacy through social models (Bandura, 1997). The social models allow the observer opportunities to see other teachers performing tasks successfully, which leads the observer to believe the model is of the same knowledge and skill level. As practitioners engage in vicarious experiences (Bandura, 1997) as part of the inquiry as stance framework, their collective intellectual capacity helps pose new adaptive challenges of practice to create the knowledge and tools to address problems by working together in inquiry communities (Cochran-Smith & Lytle, 2009). The practitioner inquiry movement and the organizing framework of inquiry as stance (Cochran-Smith & Lytle, 2009) are aligned with other social movements (Bandura, 1997) for educational transformation.

The third influence of efficacy development Bandura (1997) referenced was social persuasion, which involves the verbal assessment of others. Pierson (n.d.) said it best, "Every child deserves a champion: an adult who will never give up on them, who understands the power of connection and insists they become the best they can be" (7:08). Adults need the same experiences and support as they experience new learning.

Being in a school culture that is supportive, encouraging, safe, and free of judgment fosters an environment where teachers are set up for success to grow their thinking and positively influence their self-efficacy (Carpenter, 2015). Constructing new knowledge through discovery (Bruner, 1961) and scaffolding with practice and experiences, coincides with Bandura's (1997) social persuasion. As teachers share their successes and challenges undertaking the complex task of teaching during the COVID-19 pandemic, they received positive and encouraging feedback from other teachers enduring the same experiences.

The physiological and affective states of being also influence people's efficacy (Bandura, 1997). A person's mood can enhance or diminish their sense of efficacy. Anxiety, stress, and/or arousal experienced during the implementation of new behavioral practices are used to measure a person's level of efficacy (Tschannen-Moran & Chen, 2014). An energizing and motivational response will indicate high efficacy; however, low efficacy will be internalized as poor performance. Learning while engaging in an inquiry as stance framework comes from:

> the strenuous process by which participants come to understand their own experience, the influences of history and historical contexts on their lives, and the ways to take action so that their own perspectives and voices can have a determining effect on their futures. (Cochran-Smith & Lytle, 2009, p. 163)

When thinking about social cognitive theory in terms of this research, each teacher brings their expertise and resources to the classroom daily. As individual teachers interact with students and colleagues, interdependency forms to help all be successful (Johnson & Johnson, 2002). Collaborative conversations during the affinity groups

encouraged teachers to rely on their knowledge, and the support and expertise of their colleagues, to design instruction to help all students experience success.

Teacher Efficacy and CTE

Teachers' efficacy beliefs can be categorized in two ways: self-efficacy and collective efficacy. Individual teacher efficacy is a belief about one's own ability to promote positive change for students (Tschannen-Moran et al., 1998). CTE is a group variable that reflects a particular group of teachers' beliefs about their collective ability to promote successful student outcomes within their school (Goddard et al., 2000). According to Bandura (1982, 1998, 2001), efficacy is tied to the construct of agency (the ability to make things happen). Teachers exhibiting collective efficacy exercise positive thinking, as limitations are seen as challenges rather than roadblocks, and the power of uncontrollable circumstances is weighed against that which can be controlled (Bandura, 2001).

The construct of teacher efficacy has evolved from Rotter's (1966) locus of control theory and Bandura's (1977, 1986, 1997) social cognitive theory. Bandura (1977) identified teacher efficacy as a type of self-efficacy—the outcome of a cognitive process in which people construct beliefs about their capacity to perform at a given level of competence. These beliefs affect how much effort people expend, how long they will persist in the face of difficulties, their resilience in dealing with failures, and their stress in coping with demanding situations (Bandura, 1997).

The teacher's role in any educational initiative is crucial. Rotter's (1966) research focused on teacher efficacy and the belief teachers could influence student achievement and motivation to control the reinforcement of their actions, and thus, have a high level of

efficacy. An individual's efficacy beliefs are built from diverse sources of information that can be conveyed vicariously through social evaluation and direct experience (Bandura, 1986). Research has indicated teachers with strong, positive efficacy beliefs about their teaching ability are more likely to take risks and use new techniques (Guskey, 1988; Stein & Wang, 1988), and to experiment and persist with challenging strategies, which may have a positive effect on student achievement (Hani et al., 1996; Ross, 1992).

High self-efficacy teachers are also more apt to produce better student outcomes because they are more persistent in helping students who are having difficulty (Podell & Soodak, 1993) and are less likely to be critical of students who make errors (Ashton & Webb, 1986). Teachers with strong self-efficacy beliefs have also been shown to be better organized, to engage in more effective planning (Allinder, 1994), and to be more likely to set high-performance standards for themselves and their students (Ross, 1995). Self-efficacy has been an essential factor in understanding and predicting behavior change. Individuals' beliefs that they will be able to act in a necessary manner and their actions will lead to desired outcomes are directly related to their self-efficacy (Bandura, 1999).

Bandura (1997) defined perceived collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainments" (p. 477). He goes on to state:

> Group functioning is the product of the interactive and coordinative dynamics of its members. Interactive dynamics create an emergent property that is more than the sum of the individual attributes. A host of factors contribute to the interactive effects. Some of these factors are the mix of knowledge and competencies of the

> group, how the group is structured and its activities coordinated, how well it is led, its strategies, and whether members interact with one another in mutually facilitatory or undermining ways. A group's capability to perform as a whole can vary widely under different blends of interactive dynamics. Therefore, perceived collective efficacy is an emergent group-level attribute rather than merely the sum of the members' perceived personal efficacies. (pp. 477–478)

Collective efficacy, which expresses the shared perceptions of a group's ability to achieve collective goals (Bandura, 1993; Goddard et al., 2004; Moolenaar et al., 2012), in this case, successful data use can also influence behavior according to social cognitive theory (Bandura, 1986). CTE differs from teachers' sense of efficacy, in that CTE is a property of the school (or team; Tschannen-Moran & Barr, 2004), and is a group attribute rather than the aggregate of individual teachers' self-efficacy beliefs (Bandura, 1986).

According to Hattie (2018), CTE is teachers' collective belief in their ability to affect students positively. CTE has strong, positive correlations with student achievement (Waack, 2018). Bandura's (1993) groundbreaking study of CTE and student achievement reached two important conclusions: (a) student achievement is significantly and positively related to collective efficacy, and (b) collective efficacy has a more significant effect on student achievement than does student socioeconomic status. CTE has been generally measured by averaging a school's individual teachers' responses to a series of questions on a survey (Brinson & Steiner, 2007). Teachers with stronger perceptions of collective efficacy are more likely to say they agree with statements indicating teachers have what it takes to get children to learn and teachers are well prepared to teach subjects they are assigned to teach (Brinson & Steiner, 2007). Likewise, teachers with strong

collective efficacy are more likely to say they disagree with statements indicating students are not motivated to learn and teachers think there are students no one can reach (Brinson & Steiner, 2007).

Being members of school organizations, teachers, and their shared beliefs, influence schools' social milieu (Hoy & Miskel, 1996). Within an organization, perceived collective efficacy represents group members' shared perceptions concerning "the performance capability of a social system as a whole" (Bandura, 1997, p. 469). Putnam (1993) referred to the social features of collective efficacy as moral resources that are strengthened through their use. The potential for efficacy to grow rather than to diminish through use is also indicated by the cyclic nature of efficacy implied by reciprocal causality (Bandura, 1997).

Goddard et al. (2000) postulated two critical elements in developing collective teaching efficacy: (a) analysis of the teaching task and (b) assessment of teaching competence. During the teaching task analysis, teachers assess what will be required as they engage in teaching. The assessment of teaching competence analyzes the teaching task in conjunction with their assessment of the faculty's teaching competency; in fact, teachers make explicit judgments of the teaching competence of their colleagues in light of an analysis of the teaching task (Goddard et al., 2000). High collective efficacy will accept challenging goals, strong organizational effort, and persistence that leads to better performance (Goddard et al., 2000).

Much research has been done on CTE, which Goddard et al. (2000) defined as "the perceptions of teachers in a school that the efforts of the faculty as a whole will have a positive effect on students," with the faculty, in general, agreeing "teachers in this

school can get through to the most difficult students" (p. 480). In the view of these researchers, "teachers' shared beliefs shape the normative environment of schools . . . [and] are an important aspect of the culture of the school" (Goddard et al., 2000, p. 480). According to Anderson (2017) and Hattie (2018), a strong sense of CTE (d = 1.57) can yield over 3 years of student growth over 1 school year. CTE has been ranked the most powerful influence on achievement in visible learning research (Hattie, 2018). CTE is a belief that together teachers can positively impact student learning (Hattie, 2018). When efficacy is high, teachers show more remarkable persistence and are more likely to try new teaching approaches (Anderson, 2017). By exhibiting the characteristics of high collective teacher efficacy, teachers engage in the ultimate goals of inquiry as stance and practitioner inquiry by being knowledge generators, decision makers, and deliberative collaborators to enact social justice and social change (Cochran-Smith & Lytle, 2009).

Sociocultural Theory

School-wide professional development plans build sustainable teaching and learning (Raphael et al., 2013); however, Webster-Wright (2009) found professional development often did not situate learning in authentic problems of practice. Principles consistent with the sociocultural theory have suggested the interaction of interpersonal (i.e., social), cultural-historical, and individual influences is key to human development (Tudge & Scrimsher, 2003). Vygotsky believed language was the basis of learning and supported other activities; therefore, logic, reasoning, and reflective thinking were all possible due to language (Raphael et al., 2014). Teachers become facilitators of learning by directing dialogue, confirming contributions, and motivating students (Borko, 2004). Strategies should be implemented in a social context and take into account an

individual's strengths, language, and prior experiences so they are engaged in activities that involve problem-solving skills and real-life tasks (Harré, 1983).

Vygotsky's sociocultural theory stated what is learned emerges from, but is not reducible to, interactions with others (Raphael et al., 2014). Social interactions provide critical opportunities where knowledge is co-constructed between two or more people to support this theory. In this process, self-regulation develops through the internalization of actions and mental operations (Raphael et al., 2014). Human development then occurs through the cultural transmission of tools, such as language, which is the most critical tool (Meece, 2002). Vygotsky conceptualized the zone of proximal development (ZPD) to define the difference between what individuals can do on their own and what they can do with assistance from others. Interactions between adults and peers in the ZPD promote cognitive development (Meece, 2002).

Harré (1983) developed the Vygotsky space (see Figure 2.1) to represent key findings from Meece's (2002) research along with Vygotsky's ZPD, which represents the learning process that occurs in professional development with a sociocultural lens (Raphael et al., 2014). In Vygotsky's space, Harré (1983) defined "a process through which cultural practices are internalized by individuals, transformed in the context of individuals needs and uses, then externalized (shared) in ways that may be taken up by other" (as cited in Gallucci, 2008, p. 7). Repetitive language and activities allow movement across the quadrants (Raphael et al., 2014).

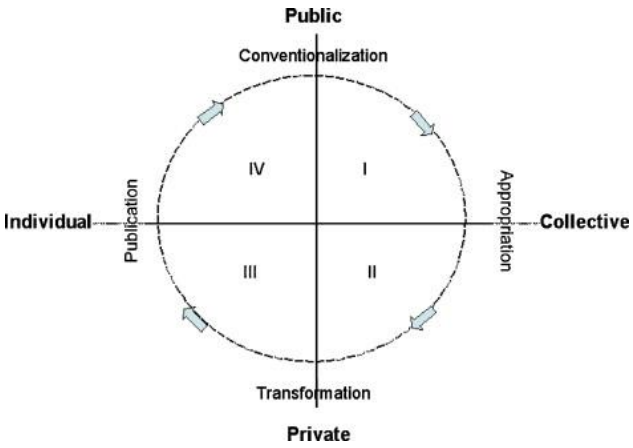

Figure 2.1 *Vygotsky Space.* Reprinted from *Personal being: A theory for individual psychology* (p.185), by R. Harré, 1983, Blackwell.

Quadrant I (public and social) introduces new constructs or pedagogical tools in which participants must make sense of the new information, understand it, and enact the ideas in their practice (Raphael et al., 2014). Quadrant II (private and social) engages participants in sharing their adaptations and transformation practices of their new learning through reflection and collaboration with peers. Quadrant III (private and individual) encourages participants to apply their new learning to their setting and, in turn, transform what they have learned by making discoveries. Quadrant IV elicits sharing and public reflection of individual experiences and transformations (Raphael et al., 2014).

Movement from Quadrant I, Quadrant II, and Quadrant III occurs through collaborative, interactive opportunities for teachers to reflect on transformational practices and adapt new learning to their classrooms. Movement from Quadrant II, Quadrant III, and Quadrant IV involves sharing teachers' transformational practices through intentional dialogue or professional development opportunities where examples of transformative learning are made public (Raphael et al., 2014). Through Vygotsky's

space, teachers have the support to make deeper understandings of new learning that leads to sustainable organizational change.

Four principles support successful movement between the quadrants identified in Vygotsky's space: (a) agency, (b) situated dialogue, (c) systemic, and (d) sustained are incorporated in the sociocultural approach to professional development (Raphael et al., 2014). Professional development that engages teachers leads to ownership, agency, and a shared understanding of the process (Au, 2013; Johnston-Parsons, 2012). Second, professional development addresses authentic problems of practice situated in the daily activities of teachers (Raphael et al., 2014), which extends agency and is rooted within communities of practice (Brown et al., 1989; Clancey, 1997; Lave & Wenger, 1991; Robbins & Aydede, 2009; Schatzki et al., 2001). Professional development that engages teachers in dialogue through intentional opportunities facilitates adaptation and transformation of new learning (Johnston-Parsons, 2012; Pearson, 1985; Routman, 2012). Consistent messages that focus on common goals value a systemic approach to professional development and support the school's mission and vision (McLaughlin & Talbert, 2006; Wood, 2007).

Through sustained professional development in the form of small group and whole group sessions focused on teachers' needs, professional development contributes to the sustainability of improved practice and positive results (Birman et al., 2000). These four principles that exemplify the sociocultural approach to professional development were incorporated into this practitioner inquiry research study because they support the four central dimensions of the construct of the inquiry as stance framework (Cochran-Smith & Lytle, 2009) and connect to Bandura's (1996) social cognitive theory.

Instructional Strategies

Hattie's (2012) famous saying is "Know thy impact" (p. 169). According to Hattie, learning needs to be visible for both the student and the teacher. He said:

> Teaching and learning are visible in the classrooms of successful teachers and students; teaching and learning are visible in the passion displayed by the teacher and learner when successful learning and teaching occurs, and teaching and learning require much skill and knowledge by both teacher and student. (Hattie, 2012, p. 17)

Teachers are considered activators as they become deliberate change agents and directors of learning. Expert teachers concentrate on information that has the most relevance, identify a more significant store of strategies students might use, predict, and determine the types of errors a student may make, and are much more responsive to students' needs (Hattie, 2012). However, teachers must have the mind frame that their fundamental task is to evaluate the effect of their teaching on students' learning achievement. According to Hattie (2012):

> this means evaluating what we are doing as educators and what the student is doing, and seeing learning through the eyes of students, as well as evaluating the effect of our actions on what the student does and the effect of what the student does on what we then need to do—and together, this is the essence of excellent teaching. (p.160)

Teacher use this information to inform their instruction and determine their next steps.

Instruction has been defined as the teacher's goal-oriented actions in a classroom that are focused on explaining a concept or procedure or providing students with insights

that will initiate or learn (Gelderblom et al., 2016; Hattie, 2009; Marzano, 2000). Pressley et al. (2006) showed the power of teaching various learning strategies to students after studying at an exemplary school. They claimed when teachers critically reflected on the conceptions of innovative thinking and then taught various learning strategies to students, this was more likely to engage students in acquiring procedural and declarative knowledge and result in the students' then using that knowledge. This school emphasized students' engagement in the learning process, teachers' articulating strategies of instruction and paying attention to learning theories, and the school building as an infrastructure to support such instruction. The teachers provided constant scaffolding and modeling, attended to day-to-day monitoring of students, and sought feedback about their teaching while also being concerned with making decisions about optimal challenging tasks to assign and seeking insights from other professionals about engaging students. This exemplary school highlighted several aspects of what it means to be strategic in teaching and learning as it related to teachers' finding ways to engage and motivate students, teach appropriate strategies in the context of various curricula domains, and continually seek feedback about how effective their teaching is with all students.

Therefore, achievement can be discussed at three levels: (a) surface, (b) deep, and (c) conceptual or constructed understandings (Hattie, 2009). There are also other critical achievement outcomes, such as fluency, retention, application, endurance, and problem-solving strategies. There are various types of thinking and understanding critical to developing conceptual understanding, such as information gathering, building understanding, productive thinking, reflective thinking, strategic management of thinking, and evaluating thinking (Moseley et al., 2005).

If students are not learning, it is because educators are not using the right teaching strategies; therefore, they should make changes to these strategies (Hattie, 2015). Getting the most significant impact on learning requires teachers to listen to the learning happening in the classroom. It requires less talk by teachers and more listening to student dialogue; it requires more evaluation of surface and deep understanding, and knowing when to move from one to the other; and it requires teaching that builds on a deep understanding of what students already know. It also requires teachers to engage with others in collaborative inquiry about their diagnoses, interventions, and evaluations—based on the evidence of their impact (Hattie, 2015).

As teachers have engaged in collaborative practitioner inquiry during the abrupt change of their instructional model, reflecting on their instructional practices and use of instructional strategies became a focus of the collaborative decision-making conversations. Teachers discussed their successes and challenges using various instructional strategies during face-to-face instruction, hybrid instruction, and virtual instruction. These opportunities allowed teachers to develop their conceptual understanding during a dramatic and quick change to their practice.

Conclusion

In this chapter, I have discussed the literature relating to the historical context surrounding the identification of specific successes and challenges teachers experienced as they abruptly changed their teaching practices during the global COVID-19 pandemic through an inquiry as stance theoretical framework. The review of literature has provided a foundation for this practitioner inquiry study. Chapter 3 presents a review of the researcher's methodology, along with the study context, participants, positionality,

research design, data collection, research procedures, ethical considerations, and data analysis procedures for quantitative data.

CHAPTER 3

METHODOLOGY

The purpose of this investigative, action research study was to identify the specific things teachers focused on when reflecting on their practice during an abrupt change of their instructional model. Given my observations of the successes and challenges teachers experienced when translating their efforts during collaborative decision making into effective classroom practice during the global COVID-19 pandemic, data collection uncovered (a) what teachers focused on when reflecting on their practice, (b) what in-service teachers focused on during collaborative decision making around the common successes and challenges that arose, (c) what successes and challenges were most common in this period of abrupt and necessary transition, and (d) how teachers and administrators navigated them.

In light of the context-dependent nature of the problem of practice and the need for a deeper understanding of teachers' successes and challenges as they abruptly changed their instruction, I selected practitioner inquiry as the overarching methodology for this study (Babione, 2015). Practitioner inquiry is grounded in educational practice realities as teachers investigate their questions and facilitate classroom change based on the knowledge discovered (Babione, 2015). This approach fostered collaboration with teachers and other administrators at RES as they investigated causes and potential resolutions for problems that arose during the global COVID-19 pandemic. The

following research questions addressed specific aspects of the work required to conduct this study:

1. What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?
2. How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?

This chapter details this study's collaborative design and its enactment. I begin with a description of the study's context, a summary of the elementary school students' demographic characteristics at the study site, a more thorough description of the teacher participants, and an overview of my positionality in this study. I also provide a thorough description of collaborative, practitioner inquiry (Babione, 2015) and the specific qualitative data collection instruments used in this study. Finally, the chapter culminates with a thorough and detailed explanation of how the data were processed, analyzed, and presented through a collaborative, practitioner approach (Herr & Anderson, 2015).

Study Context

Riverview Elementary School (RES; pseudonym) is primarily a residential suburb located to the northwest of Sunnytown. The River County School District (RCDS; pseudonym) included three attendance areas comprising 12 elementary schools, two intermediate schools, three middle schools, four high schools, one Center for Advanced Technical Studies, and one alternative school. RCDS is comprised of five elementary schools, two middle schools, and one high school in the Riverview attendance area.

RES served approximately 600 students from prekindergarten through fifth grade. During the 2020–2021 school year, approximately 350 students attended RES through face-to-face instruction and 150 students attended through virtual instruction all 5 days of the week. Face-to-face instruction was provided through several different models during the school year due to the global COVID-19 pandemic. Students choosing this instructional model received anywhere from 2–4 days of face-to-face instruction during the school year. The other days of instruction were virtual.

RES has been known as a high performing school as indicated by Niche (n.d.) and ranked in the top 10 schools in the state for many years. Niche combines rigorous analysis along with authentic reviews to highlight schools. Statistics are obtained from the U.S. Department of Education to report the most recent data available (Niche, n.d.).

RES has also been a professional development school in partnership with a local university. Through this partnership, the teachers receive professional development opportunities, engage in reciprocal learning opportunities with university professors and classroom teachers, research best practices, and communicate new knowledge with the world through research-based writing. In collaboration with the university, these professional development opportunities have led to lesson studies with the teachers to think critically about instruction, intentionally design lessons, and select instructional strategies to meet students' needs.

Participants: Classroom Teachers and the Administrative Team

Given the context-dependent nature of the problem of practice, the participants were full-time teachers at RES. Before the COVID-19 pandemic, professional development opportunities provided teachers the autonomy to make their own

instructional decisions, try new things, investigate their inquiries, and receive feedback to grow in a safe, professional environment. Teachers at RES were familiar with opportunities for collaborative decision making and reflective practices as they embarked on the new journey of changing their instructional models abruptly. When preparing for the unique 2020–2021 school year, the administrative team at RES wanted to honor the teachers' autonomy to make instructional decisions based on their students' needs and their individual needs as teachers.

Members of the RES administrative team also participated in this study as collaborative practitioner-researchers. The administrative team comprised one principal, one assistant principal, and myself as the administrative assistant principal. These participants collectively helped me investigate the problem of practice in the. The administrators at RES have worked together in their current roles for 3 consecutive years.

The majority (N = 25) of the RES teachers are veteran teachers with 15 or more years of experience, and two teachers are 3rd-year teachers. Most of these teachers have been at RES for at least 5 years and have been in the current school district for most of their education career. I sought to recruit one teacher per grade level to provide an overall picture of teacher agency and voice as they reflected on their instructional model's abrupt change during the COVID-19 pandemic.

Purposeful sampling from varying subgroups in qualitative research can provide information-rich data constituting expressions of the specific phenomenon of focus and an in-depth understanding of the study's overall purpose (Yin, 2014). Purposeful sampling refers to identifying and selecting information-rich cases for the most effective use of limited resources (Patton, 2002). For this research study, participants who were

exceptionally knowledgeable about or experienced with the phenomenon of interest was ideal (Creswell & Plano Clark, 2011). Bernard (2002) and Spradley (1979) also noted the importance of availability and willingness to participate, and the ability to communicate experiences and opinions in an articulate, expressive, and reflective manner.

All 42 certified teachers at RES participated in the weekly reflection surveys and affinity grouped professional development opportunities. However, I purposefully sampled a small group of participants (one teacher per grade level from kindergarten through fifth grade) based on their overall completion of the reflection surveys and participation in all professional development opportunities for participation in the study. Qualifications for participating in the study included any adult certified staff member who had direct contact with a K-5 student or student(s) in an intellectual capacity during the school day using a face-to-face, hybrid, or virtual instructional model. I looked for participants who completed the survey each week and attended all professional development opportunities to gather consistent and complete data. Quarantines related to the COVID-19 pandemic did not impact the staff during the data collection timeline. However, some staff members could not attend all afterschool professional development or complete the reflection surveys. Table 3.1 describes the study's participants using pseudonyms to protect participants' identities.

Table 3.1 *Research Participants*

Name	Years of experience	Primary (K-2) or secondary (3-5)
Anne	16–20	Secondary
Christina	5–9	Primary
Laurie	0–4	Secondary
Mary	10–14	Secondary
Stephanie	10–14	Primary
Tina	16–20	Primary

RES has been grounded in a culture of reflective practices, collaborative decision making, and professional development. Administrators and teacher leaders continuously collect and analyze data to determine the school's courses of action. Since this process has been a prior practice at RES, I did not collect informed consent letters as part of this research study.

Positionality

Along with the 42 classroom teachers and 15 staff members, I served as one of three administrators (one principal, one assistant principal, and one administrative assistant principal) at RES, a suburban elementary school in the southeastern United States. As an administrative assistant principal, my duties included conducting classroom observations, evaluating teachers and staff, designing and implementing school-wide professional development, serving as the special education department head, and handling many more duties assigned by the principal. These duties provided me with ample opportunities to collaborate with the education professionals and community members throughout the school and district to support the district and school's mission and vision.

Focusing this dissertation in practice on the successes and challenges teachers concentrated on when reflecting on their practice as they were required to abruptly change from a face-to-face instructional model to a hybrid or virtual instructional model allowed me to develop meaningful insights into collaborative decision making and collective teacher efficacy (CTE) and, in turn, helped me better support the classroom teachers at RES. This practitioner inquiry research study aimed to support classroom teachers as they engaged in collaborative decision-making opportunities to support their students' needs. Ultimately, I wanted all students to be successful. Teachers need to be empowered to make instructional decisions based on their students' individual needs. These collaborative professional development opportunities have helped students achieve success. As these professional development opportunities elicit results, the RES administrative team and teacher leaders within the school reflected on each student's strengths and designed future learning opportunities based on the teachers' individual needs.

The RES administrative team and teacher leaders worked closely to make decisions in students' and teachers' best interest. The collaborative inquiry group (CIG) reflected on the success of professional development opportunities intentionally designed for the staff that directly impacted the students throughout the school. Not only were we asking our teachers to engage in collaborative decision-making opportunities, but we did the same thing as well when reflecting on the data gathered during the CIG. The qualitative data the CIG focused on consisted of the weekly reflection surveys, which helped the CIG make future professional development decisions based on the RES teachers' and students' individual and collective needs.

Throughout qualitative research, the researcher is the primary instrument whose role must be carefully described (Creswell & Poth, 2013). During this study, I had two roles. One was an insider because I was an administrator within the school. As an administrator, I collaborated with other administrators and teacher leaders as part of a CIG. In this role, I analyzed the weekly reflection surveys and shared descriptive codes given to all responses to the survey and themes generated from the descriptive codes. Descriptive coding is a first cycle method of coding that involves reading through qualitative data and coding passages according to a topic (Saldaña & Omasta, 2016). Descriptive codes are often in the form of a noun and summarize the data's topic (Saldaña & Omasta, 2016). I used these descriptive codes to affinity group staff members for the CIG's professional development opportunities.

My other role was that of an observer of the different collaborative decision-making opportunities teachers engaged in throughout the study. These collaborative decision-making opportunities occurred during the CIG's professional development opportunities. I did not attempt to influence participants in any of these situations and remained strictly an observer.

My roles required the following:

- creation of the research design;
- the organization, analysis, and coding of the weekly reflection survey;
- selection and implementation of the Atlas: Looking at Data protocol for the CIG;
- analysis of extensive memo notes from the CIG;

- analysis of the extensive memo notes from the CTE Practice Profile when observing participants during the affinity grouped professional development.

I analyzed data for this study using a deductive and inductive process. The inductive process I initially used followed the data rather than seeing results that confirmed a preconceived hypothesis (Merriam & Tisdell, 2016) when analyzing the initial data from Learning, Engaging, Assessing, and Practicing Week (LEAP) week before the school year. These data helped identify initial descriptive codes and themes based on the successes and challenges teachers experienced. I used these themes to create the weekly reflection survey and connected them to the professional development teachers received from the school district. This professional development focused on *The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting* (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017). I did not report the data from LEAP week in this research, though referencing its influence on the weekly reflection survey development was essential.

The weekly reflection survey results were deductive due to the intentionality of the questions focused on themes teachers previously identified based on their reflection of successes and challenges they experienced during LEAP week (see Figure 3.1). However, the weekly reflection survey results were inductive because I derived codes from the data (Saldaña & Omasta, 2016).

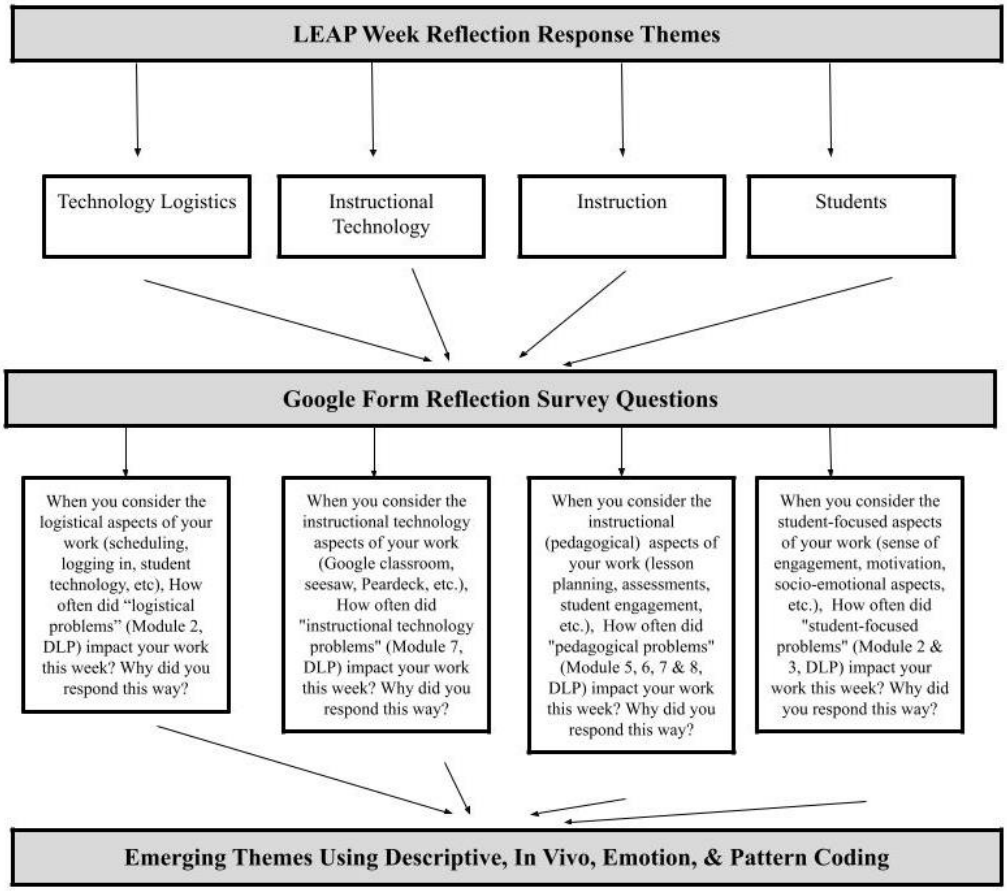

Figure 3.1 *LEAP Week Successes and Challenges*

Research Design

Given the nature of the problem of practice for this study and the recognition we need to understand better the problem to address it effectively, I selected collaborative practitioner inquiry (Babione, 2015) as the overarching methodology for the study. Methods associated with practitioner inquiry (Cochran-Smith & Lytle, 2009) guided the process of data collection, analysis, and presentation.

Practitioner teacher inquiry is a qualitative, open-ended, and reflective methodology that encourages teachers to be collaborative and empowers them to control

instructional decisions (Babione, 2015). It also encompasses teachers' willingness to take risks and look closely at their instructional decisions in a collaborative environment where they learn about others' personal beliefs, values, past, and personal and professional experiences (Babione, 2015). Qualitative researchers are interested in understanding the meanings people have constructed based on the experiences they have in the world (Merriam, 1998).

As an administrative assistant principal at RES, my daily work involved supporting and observing teachers during planning and instruction. According to Anderson et al. (2007), school-based inquiry is best done by those who have a stake in the problem under investigation. Designing practitioner research to be more qualitative, reflective, and collaborative encouraged teachers to disconnect from the norms of professional isolation by connecting with others' rich descriptive perspective (Babione, 2015). Teachers were able to study and develop an empathetic understanding of others and design a new curriculum through intentional collaboration and conversations (Babione, 2015).

Practitioner inquiry involves the systematic, intentional study of one's professional practice (Cochran-Smith & Lytle, 1993; Hubbard & Power, 1993). Dana and Yendol-Hoppey (2009) argued conducting inquiries into practice situates practitioners as active participants in shaping the profession's direction. Practitioner inquiry is also a collaborative process and provides venues for teachers to have more to say about their work's changing nature and more power and control over curricular and pedagogy changes that affect their classrooms (Babione, 2015). These attributes of practitioner inquiry made it well suited to this study.

Within practitioner inquiry, data collection can involve quantitative data, qualitative data, or both (Babione, 2015). For this study, qualitative measures provided insights for me to better understand the problem of practice (Creswell, 2003; Tashakkori et al., 1998). Qualitative researchers are interested in understanding how people interpret their experiences, construct their worlds, and what meaning they attribute to their experiences (Merriam & Tisdell, 2016). The most basic qualitative research definition is that it uses words as data (Merriam & Tisdell, 2016).

In the first step of this research design, my advisor and I created a reflective survey administered through Google Forms to the staff at RES over a 7-week period. This survey incorporated themes that emerged from the successes and challenges teachers reported during LEAP week before the start of the 2020–2021 school year. The survey also purposefully aligned with several research questions (see Appendix E) and district professional development provided to the teachers. Table 3.2 presents each question's alignment with the appropriate study research question. It also highlights the themes that emerged from previously reported successes and challenges of teachers during LEAP week.

Table 3.2 *Google Form Reflective Survey*

Survey question	Theme incorporated from LEAP week	Research question
When you consider the logistical aspects of your work (scheduling, logging in, student technology, etc.), How often did "logistical problems" (Module 2, DLP) impact your work this week?	Logistical problems	RQ 1 RQ 3

Survey question	Theme incorporated from LEAP week	Research question
When you consider the instructional technology aspects of your work (Google classroom, seesaw, Peardeck, etc.), How often did "instructional technology problems" (Module 7, DLP) impact your work this week?	Instructional technology	RQ 1 RQ 3
When you consider the instructional (pedagogical) aspects of your work (lesson planning, assessments, student engagement, etc.), How often did "pedagogical problems" (Module 5, 6, 7, 8, DLP) impact your work this week?	Pedagogical aspects	RQ 1 RQ 3
When you consider the student-focused aspects of your work (sense of engagement, motivation, socio-emotional aspects, etc.), How often did "student-focused problems" (Module 2 & 3, DLP) impact your work this week?	Student-focused aspects	RQ 1 RQ 3

The Google Form Reflection Survey included four data collection questions for this research study. Each question included a Likert scale response and a descriptive response (see Table 3.2). I also used descriptive responses in the data collection for this research. Though, the CIG only analyzed the Likert scale responses and used them as discussion points for each meeting. I averaged the entire staff's Likert scale responses each week for each of the four questions. These averages provided a summary of growth over time for each question.

The open-ended responses to the survey questions provided reflective opportunities for participants and provided qualitative data for the purpose of this research study. Saldaña's (2016) first cycle and second cycle coding methods guided my analysis. I used an inductive approach to uncover the emergent themes from the raw data acquired through the reflective weekly surveys (Thomas, 2003). The survey questions' design added a layer of deductive reasoning due to the intentionality of questions. However, thematic analysis is a flexible approach to qualitative analysis that enables

researchers to generate new insights and concepts derived from data (Saldaña & Omasta, 2016).

The administrative team at RES outlined the first 2 months of the school year's professional development plan for teachers during the school year's in-service week in August. The outline included weekly Google Form reflection surveys, professional development opportunities based on teachers' needs, and teachers' mandated district professional development. During the in-service week, the administrative team at RES shared with teachers how the weekly Google Form reflections would provide necessary input to design professional development based on their responses. Through this process, the administrative team heard the teachers' voices, which were instrumental in determining the next steps, including designing professional learning for their peers (Donohoo, 2017).

Each week, I sent the Google Form reflection survey to 42 teachers through email. These teachers represented all certified staff at RES. Responses not anonymous so I could use them to affinity group teachers for future collaborative professional development. If teachers did not complete the Google Form reflection survey after 2 days, I sent a reminder email was sent to them. Throughout the 7 weeks of sending out the Google Form reflection survey, the average response rate was 88% of the 42 certified teachers.

I read through all teachers' responses to observe meaning and patterns across the data set (Saldaña & Omasta, 2016). I organized the responses from the Google Form in Google Sheets and used memoing to note potential codes to create (Saldaña & Omasta, 2016). During the first cycle of coding, I used descriptive coding by coding passages

based on topic, often in the form of a noun that summarized the data (Saldaña & Omasta, 2016).

I applied excerpts to appropriate codes and excerpts representing the same meaning had the same code applied (Saldaña & Omasta, 2016). I then created a codebook was in Google Sheets to keep track of the codes. A codebook is a compilation of codes, content descriptions, and data examples for reference (Saldaña & Omasta, 2016). The descriptive codes were categorized and organized by topic for analysis by the CIG. I completed further rounds of coding using in vivo and emotion coding to analyze the Google Form reflection data from the purposeful sampled participants for this research study. I chose these codes to capture participants' exact words and emotions in alignment with my research questions (Saldaña & Omasta, 2016).

Appropriate measures ensured the confidentiality of participants' identities and the collected data. I used a separate Google Sheet to analyze the data for the six teachers selected through purposeful sampling. I was the only person who saw this Google Sheet and secured it in a password-protected Google account.

After I determined the six participants for the purposefully sampled group, I used more first-round coding to analyze the data from the weekly Google Form reflection surveys, including in vivo codes to highlight participants' language and terminology (Saldaña & Omasta, 2016). In vivo coding also allowed the codes to reflect participants' perspectives and actions so I could acquire an in-depth understanding of the participants' ideas and meanings (Saldaña & Omasta, 2016).

I used emotion coding during the initial coding process. Emotion codes track the emotional journey or storyline of the codes, which creates a structural arc as certain

events unfold (Saldaña & Omasta, 2016). Due to the global COVID-19 pandemic occurring during this research study, which participants had never experienced before experienced, I recognized the importance of capturing participants' voices and emotional journeys. Fisher (2012) noted people experience emotions before formulating words to articulate them. Recalling emotions is sometimes tricky once the feeling has dissipated (Schwartz, 2009), which is why I sent the Google Form reflection survey weekly—to elicit timely responses based on participants' experiences.

Practitioner Inquiry Group

I reviewed all 42 teachers' responses to the four reflective questions weekly before meeting with the CIG, which allowed me to understand participants' experiences best and code the data to present to the CIG. I created descriptive codes by reading through the data and identifying topics that surfaced (Saldaña & Omasta, 2016). I created codes for each topic and collated all excerpts related to each descriptive code (Saldaña, 2009). These codes were then presented to the CIG and analyzed using the Atlas: Looking at Data protocol (see Appendix C).

Dana and Yendol-Hoppey (2009) argued, in part, that sharing inquiries positions practitioner-researchers as active contributors to professional knowledge about teaching and learning. The CIG consisted of the principal, assistant principal, researcher, local university liaison, and two teacher leaders within RES. These teacher leaders were part of the local university's fellowship program, and they were working toward their doctorate degrees. The CIG met five times, either through Google Meet or in-person. I used both options during each meeting to accommodate CIG members on quarantine from COVID-19 or working from home. Some CIG members felt comfortable meeting in a socially

distanced space. I recorded the Google Meets for this research and stored them in my password-protected Google Drive.

Before the CIG meeting each week, I emailed the data ahead of time, organized by descriptive codes and including graphs for the Likert scale responses. The data were also displayed on a screen in the conference room at RES for members of the CIG who were comfortable meeting in person. The CIG followed the Atlas: Looking at Data protocol to create a safe environment where participants focused on sharing their thoughts and observations of the qualitative data without any pressure to answer or solve a problem (Buchovecky, 2000).

My organization of the data ahead of time allowed the CIG to engage in the Atlas: Looking at Data protocol and efficiently group teachers based on their responses and design professional development based on their needs guided evidence that collaborative teacher professional development could improve teacher learning beyond traditional professional development opportunities (DeMonte, 2013). Through this professional development design, teachers had opportunities for scaffolding and dialogue (Darling-Hammond et al., 2009) focused on teachers' experiences during the global COVID-19 pandemic that required reconfiguring their classrooms, curriculum, and teaching.

Scaffolding through collaborative teacher development helped teachers develop the skills to become more independent learners (Warford, 2011). Warford (2011) defined the zone of proximal teacher development as the difference between what a teacher can do alone and what a teacher can do with help. The CIG designed the professional development at RES and paired teachers who indicated they were less competent through their Google Reflection survey with more competent teachers working with a skill or

concept. The skills and concepts were identified through the initial coding process using descriptive codes.

CTE Practice Profile

Donohoo (2017) suggested if knowledge about another's work develops by learning together collaboratively, teachers could co-construct knowledge about effective practices. Co-constructing new knowledge can not only increase CTE but also empower and motivate teachers (Donohoo, 2017). The CIG modified the CTE Practice Profile to explore and analyze CTE during the collaborative professional development opportunities designed for teachers. MO-EDU SAIL (2019) Educational Systems and Instruction created the original CTE Practice Profile for Learning and permitted its use under a Creative Commons Attribution-Non-Commercial-No Derivatives 4.0 International License.

The CIG modified the CTE Practice Profile to be a qualitative data collection tool. The original CTE Practice Profile scored CTE characteristics using an *exemplary, proficient*, *close to proficient*, and *far from proficient* rating scale. The CIG elected to remove the rating scale and leave responses open ended to elicit specific examples that reflected each area of the tool (see Appendix B)

I used the modified CTE Practice Profile to observe the collaborative professional development opportunities designed based on the teachers' responses to the Google Form reflective survey. I was the only one who completed the modified CTE Practice Profile due to other CIG members directing the collaborative professional development opportunities and the local university liaison having other commitments. For each collaborative professional development session, I watched the recorded Google Meet and

completed the modified CTE Practice Profile which provided 14 different opportunities to gather data using the profile. The modified CTE Practice Profile results were included in the discussions with the CIG as the group reflected on the collaborative professional development opportunities.

Positionality

My positionality as an observer during data collection and a participant in the CIG allowed me to develop into a reflective practitioner and create new knowledge about and with participants in this research study (Merriam & Tisdell, 2016). Lewis et al. (2006) asserted conducting research at the researcher's school site provides "local proof" throughout the research (p. 6). This proposed practitioner inquiry research study presented an opportunity to purposefully observe and examine the characteristics of the successes and challenges teachers experience and the collaborative decision-making conversations teachers engage in at RES, given the abrupt change in their profession and teaching environment. Specifically, as a participant-researcher, I sought to investigate different qualitative data types to explore collaborative decision-making conversations, CTE, and the common successes and challenges teachers identified when required to change their practice during the global COVID-19 pandemic. Triangulating these different data collection methods allowed me the opportunity to directly compare and contrast the qualitative findings for corroboration and validation purposes (Creswell & Plano Clark, 2011).

Data Collection

Practitioner inquiry involves a systematic collection of data from various sources. Dana and Yendol-Hoppey (2014) defined practitioner inquiry as the systematic,

intentional study of one's professional practice to seek change by reflecting on such practice. Through collaborative discussion and individual reflections, practitioner teacher inquiry encourages teachers to study their practice to improve practice, and ultimately student outcomes (Campbell, 2013; Cochran-Smith & Lytle, 1993, 2009; Dana & Yendol-Hoppey, 2008, 2009; Lytle, 1996). This research exemplified a high quality of practitioner inquiry by: including specific details about context, building a strong case linked to existing literature that leads to a research question, collecting multiple forms of data, articulating explicit claims supported with evidence collected within the study, and linking the learning to changes within practice (Dana & Yendol-Hoppey, 2014).

In this section, I describe data collection sources and methods and how I organized data for analysis. Table 3.3 presents the research questions for this study and the data collection methods used to investigate each question.

Table 3.3 *Research Questions and Data Collection Methods*

Method	Research Question 1: What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?	Research Question 2: How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?
Google Form reflection survey	✓	✓
Modified CTE protocol	✓	✓
Atlas: Looking at Data Protocol	✓	✓
Extensive memoing	✓	✓
Video recordings and transcriptions	✓	✓

Google Form Reflection Survey

In collaboration with my advisor, I created the Google Form reflection survey. I used data from teachers' successes and challenges collected at RES during LEAP week, which occurred before starting the 2020–2021 school year, to design the survey questions (see Appendix F). The themes that emerged from these data were technology logistics, instructional technology, instruction, and students. A Likert scale was used in this survey to measure participants' attitudes toward the emerging themes' impact on their work. An open-ended question followed each Likert-scale question to allow participants to define their selection. The CIG analyzed the Likert scale data to look for changes and impact over the 7-week period of data collection in a qualitative way to triangulate the teachers' open-ended Google Form survey responses.

The Google Form reflection survey was sent to 42 certified teachers weekly through email. Before sending it out for the first time, the administrative team at RES explained the importance of completing the survey each week and the use of the responses. The CIG used the Google Form reflection survey responses to group participants and design collaborative professional development opportunities. These collaborative professional development opportunities empowered teachers through learning that emerged from interacting with others.

I sent the first Google Form reflection survey to participants at the end of the first week of the 2020–2021 school year. Two weeks' worth of data from the Google Form reflection survey were collected before the first CIG meeting to review the data and design the collaborative professional development for the teachers. Due to district-mandated professional development, the collaborative professional development

opportunities designed by the CIG could not occur during consecutive weeks (see Appendix D). Therefore, the CIG met every other week, depending on the schedule.

Overall, I sent the Google Form reflection survey weekly from September 7 through October 22, 2020. A final reflection form with two separate questions designed by the CIG was given to all certified staff members the week of October 26 after the final collaborative professional development opportunity. The CIG chose to use two different questions from the initial Google Form reflection survey to elicit input regarding the collaborative professional development opportunities. Data gathered from these questions allowed the CIG to decide the next steps when designing collaborative professional development opportunities to support the teachers at RES based on their voices and needs.

The teachers were provided questions through a paper copy to get an even higher completion rate. I provided digital copies to teachers participating virtually during this period. However, providing paper copies resulted in a 76% completion of the teachers' final reflective questions. The final reflective questions were open-ended and consisted of the following:

As you considered the success and challenges you have faced over the past 8 weeks, please let us know:

1. Did you feel the collaborative professional development opportunities were responsive to your needs? Please explain.
2. Were these collaborative professional development opportunities beneficial for you? Please explain.

The six participants for this research study completed all seven of the Google Form reflection surveys and the CIG's final reflection survey. I used multiple coding techniques to analyze the Google Form reflection survey data for the participant group.

Coding Techniques

This qualitative, practitioner inquiry study afforded the opportunity to study an experience, collect data, and establish themes from the findings (Creswell & Poth, 2013). I used an inductive approach to uncover emergent themes from data generated by the six teachers' responses to the Google Form reflection survey (Thomas, 2003). I used descriptive coding in the first cycle of data analysis by noting keywords or phrases (Saldaña & Omasta, 2016), as well as in vivo coding, which used the participants' spoken language (Saldaña & Omasta, 2016). I extracted single words and phrases from the Google Form reflection survey responses, used in vivo coding to break down the data into discrete parts, and compared them for similarities and differences (Saldaña & Omasta, 2016).

Emotion coding was the final first cycle coding method used. Emotion coding labels the emotions recalled or experienced by the participant (Saldaña & Omasta, 2016). I chose to use this form of coding after initially reviewing the data and recognizing the number of emotions conveyed in the teachers' responses. This form of coding is appropriate for exploring intrapersonal and interpersonal participant experiences and actions (Saldaña & Omasta, 2016). Emotion coding provided insight into participants' perspectives, worldviews, and life conditions during the global COVID-19 pandemic as teachers were required to dramatically and quickly change their practice.

After becoming familiar with the data and developing codes, I searched for themes within the codes to begin the second coding cycle. A theme is an extended-phrase or sentence that identifies what a unit of data is about and what it means (Saldaña & Omasta, 2016). Themes were identified in the data at the manifest level (Saldaña & Omasta, 2016) because they were directly observable in the data. Reviewing themes includes two levels of checking: (a) checking whether the themes capture the essence of the coded data concerning the research question and (b) checking whether the themes work in the whole data set (Xu & Zammit, 2020).

For the second cycle of data coding, I used pattern coding to collect similarly coded passages from the data, which helped me develop major themes from the data, search for causes and explanations in the data, examine social networks and patterns of human relationships, and form the theoretical constructs and processes (Saldaña & Omasta, 2016).

Once I identified and named major themes, I began the last data analysis phase, telling stories, which is the product of prolonged data immersion, deep thinking, and reflection (Xu & Zammit, 2020). After completing the data collection for this research study during the first quarter of the school year, the CIG met to discuss the next steps for collaborative professional development for the remainder of the school year. The data supported the CIG's determination that collaborative professional development successfully supported teachers' needs. Throughout the data collection period, teachers made suggestions that were taken into account and provided reflective learning opportunities for the CIG as well.

Modified CTE Practice Profile

Bandura (1977) uncovered a working group's confidence in its abilities that seemed to be associated with tremendous success. When a team of individuals share the belief that they can overcome challenges and produce intended results through their unified efforts, groups are more efficient (Donohoo et al., 2018). Bandura (1997) named this pattern "collective efficacy," which he defined as "a group's shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment" (p. 477). Goddard et al. (2000) created a CTE measurement scale to develop the CTE Practice Profile by MO-EDU SAIL Educational Systems and Instruction for Learning. I, along with the CIG, chose to modify the CTE Practice Profile to be a qualitative data collection tool, instead of quantitative, for the nature of this practitioner inquiry research study (see Appendix B).

The modified CTE Practice Profile was used to clarify and help understand what in-service teachers focus on during collaborative decision making around the common successes and challenges (Singer & Couper, 2017). The administrative team and CIG used the modified CTE Practice Profile to learn about teacher agency and teacher voice in a time of significant change through engaging in collaborative practitioner inquiry. The CIG modified the CTE Practice Profile to be a qualitative data collection tool that defined CTE examples found at RES. Quantitative measures primarily provided a basis for CTE research (Goddard 2001, 2002; Goddard et al., 2000, 2004; Goddard & Skrla, 2006; Tschannen-Moran & Barr, 2004), so this study aimed to provide qualitative data on CTE and the school context.

The CIG maintained the CTE Practice Profile's essential focus created by the MO-EDU SAIL Educational Systems and Instruction for Learning, which included gathering information on the four sources of efficacy, social networks, teacher voice, and collaborative teacher inquiry. Questions were included for each essential focus to guide the modified CTE Practice Profile and elicit qualitative data from the person completing it. I completed the modified CTE Practice Profile while observing the collaborative professional development opportunities designed by the CIG.

Due to professional development occurring during the global COVID-19 pandemic, I included social distancing measures to maintain all staff members' safety. The collaborative professional development was provided through Google Meet for all teachers, whether they were in the building or at home teaching virtually. Administrators observed collaborative professional development opportunities through Google Meet. I recorded the Google Meets to review later and informed the participants of the recording before starting collaborative professional development.

Results from the modified CTE Practice Profile were shared and incorporated into the discussions with the CIG when designing collaborative professional development opportunities and analyzing data from the Google Form reflective surveys. I discussed the modified CTE Practice Profile results with the administrative team to reflect on teachers' support and learn about teacher agency and teacher voice in a time of significant change by engaging in collaborative practitioner inquiry. For this research, I only reported the data collected using modified CTE Practice Profile for the six participants in this study's overall data.

Practitioner Inquiry Group

During this qualitative research, I chose to collaborate with other insiders within RES to maximize impact on the research setting (Herr & Anderson, 2015). The insiders were the principal of RES, assistant principal, local university liaison, and two teacher leaders. This collaboration supported the development of a CIG. Zeichner and Liston (1996) shared several reflective actions of practitioner inquiry, which informed the design and selection of the CIG protocol for discussing data: (a) being aware and questioning one's assumptions and values, (b) being attentive to institutional and cultural contexts, (c) taking a role in curriculum development and school change efforts, and (d) taking responsibility for one's professional development. This inquiry study empowered teachers to shift from consumers of knowledge to knowledge makers, with more power and control over pedagogy (Knight & Marciano, 2015).

Collaborative inquiry groups are often the result of data-driven organizational change efforts. Inquiry groups can help move people from working as isolated individuals toward a collaborative community; seek to engage their members in learning and change; work toward influencing organizational change; and offer opportunities for personal, professional, and institutional change (Herr & Anderson, 2015). This inquiry group sought to analyze participants' data through the Google Form reflection survey.

The inquiry group used the Atlas: Looking at Data protocol (Buchovecky, 2000) to ensure everyone in the group was aligned and focused on the data to effectively and efficiently design collaborative professional development opportunities to support the successes and challenges of teachers during the global COVID-19 pandemic. Before

using the modified CTE Practice Profile, all group members agreed on the protocol and the building principal approved it.

The Atlas: Looking at Data Protocol helped the CIG analyze data both descriptively and inferentially (Venables, 2011). The CIG met five times over the 8-week data collection period to engage in practitioner inquiry when designing collaborative professional development opportunities for the teachers and analyzing data from the Google Form reflection surveys.. Weekly data shared with the CIG was organized and projected onto a screen for all participants in the inquiry group to see and emailed to them before the meeting. Participants unable to attend in person participated through a Google Meet. The Google Meet was also recorded and reviewed for data collection purposes.

The Atlas: Looking at Data protocol (Buchovecky, 2000) took approximately 45 minutes each meeting. Following the protocol's implementation, the CIG grouped participants based on their responses and descriptive codes I organized before the meeting. Table 3.4 shows the collaborative professional development opportunities and affinity groups' topics.

Table 3.4 *Collaborative Professional Development Topics*

Date	Collaborative professional development topics
September 22, 2020	Logistics planning and engagement navigating SeeSaw
September 29, 2020	Engagement planning platforms and tools
October 13, 2020	Engagement planning grading and assessing accountability
October 27, 2020	Artifact sharing of new learning

In each meeting, the CIG identified teacher leaders to facilitate the collaborative professional development sessions, and locations to allow for social distancing, and

created a Google Doc to inform staff about the collaborative professional development. I emailed the Google Doc to teachers to inform them of their affinity groups, the topic being discussed in their group, and how to join their session through Google Meet or at a specific location.

The Google Doc included a Padlet link to reflective questions. All teachers at RES had access to the Padlet and were able to see everyone's responses. I used the same Padlet for all collaborative professional development opportunities (see Appendix A). The CIG's goal of using Padlet was to provide transparency, allow another opportunity for teacher voice and reflection, and model tools teachers could use with their students. I did not collect data from the Padlet for this research study due to the posts' being anonymous. However, the administrative team reviewed the responses at RES after each collaborative professional development session.

Previous district professional development used the same reflective question format in the Padlet. The teachers were, therefore, familiar with these reflective questions, which is why they were chosen by the CIG. The reflective questions in the Padlet were:

- KEEP: What is something you will keep doing after your conversations from today?
- IMPROVE: What is something you would like to improve after your conversations from today?
- CHANGE: What is something you would like to change after your conversations from today?

- TAKEAWAY: What is your one takeaway or one thing you want to employ from your conversations today?

In each collaborative professional development session, a teacher leader was emailed at least 1 day before the session and asked to facilitate it. Facilitation of the session included the following:

- logging into the Google Meet for the meeting so virtual teachers or teachers who preferred that option could attend,
- resharing the topic of collaborative professional development, and
- posing the Padlet reflective questions generated by the CIG to guide the meeting based on the topic.

Memoing

I used extensive memoing throughout the CIG meetings, the modified CTE Practice Profile, and the Google Form reflection surveys analysis. Memos can provide a space to reflect on issues raised in the setting and how they relate to larger theoretical, methodological, and substantive issues (Merriam & Tisdell, 2016). I transcribed extensive memoing notes and coded them using inductive codes that emerged from the analyzed text itself (Charmaz, 2006). Throughout the first cycle of coding, I used descriptive codes, in vivo codes, and emotion codes. During the second cycle, I used pattern coding to elicit emergent themes throughout the codes.

Given the various qualitative forms of data collection, triangulating these multiple data collection methods provided rigor and breadth to the study (Creswell, 2007; Denzin & Lincoln, 1998). Triangulation using multiple data sources means comparing and cross-checking data collected through various forms (Merriam & Tisdell, 2016). Triangulation

was accomplished through a constant data analysis and reflection with the CIG to determine the next steps based on the successes and challenges teachers reflected on as they were required to change their practice abruptly.

Video Recordings and Transcription

I facilitated the Atlas: Looking at Data protocol during the CIG meetings, the meetings were recorded through Google Meet to be reviewed and analyzed later. I also recorded all of the collaborative professional development opportunities through Google Meet, and after making sure participants aware of the recording. Recordings occurred due to the large number of sessions, which included virtual and face-to-face teachers. Google Meet provided the ability to record each of these sessions.

Teachers at RES were familiar with being recorded during professional development opportunities. It has been a practice throughout the district, and video recordings are shared among schools to strengthen various professional development opportunities across the district. I hand transcribed the videos to become more familiar with the data, and used extensive memoing during the transcription.

Research Procedure

The procedures used to conduct this practitioner inquiry research study are explained in this section. First, I describe the process of using the Google Form reflection survey to elicit reflective, qualitative data from participants. Next, I describe the modified CTE Practice Profile and outline the process of the Atlas: Looking at Data protocol with the CIG. Finally, I describe the data analysis process for all qualitative data collected throughout this research study.

Qualitative research is inductive by nature and involves discovering patterns, themes, and categories among the data (Patton, 2002). During this study, I collected qualitative data through: a Google Form reflection survey, a modified CTE Practice Profile used during collaborative professional development opportunities, the Atlas: Looking at Data protocol, and extensive memoing. Video recordings of the collaborative professional development opportunities and CIG meetings were transcribed and analyzed as part of the data collection process.

Bogdan and Biklen (1982) defined qualitative data analysis as "working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what new learning needs to occur, and deciding what you will tell others" (p. 145). To prepare for the data collection period for this research, and in conjunction with developing the school-wide professional development plan for RES, I met with the school principal and assistant principal to review dates and timelines. Due to mandated district professional development, consecutive weeks for collaborative professional development opportunities were not an option. Based on district research guidelines, I also wanted to ensure that no research occurred during district or state testing.

During this time, the CIG met to review the MO-EDU SAIL Educational Systems and Instruction for Learning CTE Practice Profile to modify it to become a qualitative data collection tool (see Appendix B). Administrators then used the modified CTE Practice Profile during the collaborative professional development opportunities designed by the CIG. For this research, I only reported data I collected using the modified CTE Practice Profile for the six participants in this study's sample.

The CIG established dates for CIG meetings (see Appendix D) during this time and determined the CIG would meet before each collaborative professional development opportunity. Since these opportunities did not occur consecutively, the CIG did not meet consecutively. However, the most prolonged period between meetings at any given time was 2 weeks. The CIG determined to gather 2 weeks' worth of data from the Google Form reflection survey before the next CIG meeting. These data were then analyzed using the Atlas: Looking at Data protocol to group participants based on their responses. Affinity grouping fostered learning opportunities for participants to engage in collaborative professional development with a less competent teacher paired with a more competent teacher related to a skill (Zaretskii, 2009). Together, the teachers improved or mastered the skill that one of the teachers may have been lacking (Zaretskii, 2009).

The intentional design of the CIG, planning of the affinity groups, and participation in the collaborative professional development groups fostered opportunities to engage in qualities of the inquiry as stance framework, as well as components of Bandura's (1997) social cognitive theory and Vygotsky's (1978) sociocultural theory. Educators and administrators examine how to change things and what needs to change (Cochran-Smith & Lytle, 2009) through collaborative dialogue (Vygotsky, 1978) and by observing, modeling, and imitating the behaviors, attitudes, and emotional reactions of others (Bandura, 1977).

Several themes emerged during this data analysis. The CIG used these themes to create the first set of affinity groups. The CIG created a Google Doc (see Appendix G) to share with the teachers to begin the collaborative professional development opportunities based on their responses to the Google Form reflection survey. The Google Doc included

the affinity group topics, participants in each affinity group, and location of the collaborative professional development opportunities. I included Google Meet links for participants who were not comfortable meeting in person or were teaching virtually outside of the building. The Google Doc was shared at least 1 day before the collaborative professional development opportunity so teachers would be well informed.

I used the modified CTE Practice Profile during the collaborative professional development opportunities. The qualitative tool sought to define specific examples of CTE exemplified by teachers during collaborative professional development opportunities. RES previously offered collaboration and shared leadership opportunities, which fostered high CTE. During the global COVID-19 pandemic, I chose to investigate what happened to CTE when teachers were required to dramatically and quickly change their practice by using this modified CTE Practice Profile.

After reviewing the data during Week 7 of data collection, the data analysis indicated repetitive patterns and saturation. Saturation occurs when no new information emerges during coding and data analysis (Saldaña & Omasta, 2016). The CIG elected to design collaborative professional development differently during the 8th week. Teachers met with their grade-level teams and shared one new learning they implemented from the collaborative professional development opportunities. Teachers reflected on their learning through a new column added to the original Padlet called "Artifact Sharing: Add one artifact that reflects your learning over the past few weeks" (see Appendix A). In this column, teachers added pictures, examples, and descriptions of their new learning.

The goal of using the Padlet for teachers to share examples of their learning was to support the overall goals of collaborative professional development. The collaborative

professional development was situated within the day-to-day practices of teachers, offered the opportunity for meaningful conversations between participants, and fostered a systematic understanding of the implementation of learning to sustain learning across extended periods (Mahn & John-Steiner, 2012). The collaborative professional development design supported successful movement among the quadrants identified in Vygotsky's space (see Figure 2.1), which are agency, situated dialogue, systemic, and sustained (Raphael et al., 2014).

The CIG also created two final reflective questions during the 8th week and provided teachers a paper copy instead of a Google Form, hoping to achieve 100% participation; though a digital copy was also provided to teachers not in attendance or joining virtually. However, 77% of the teachers completed the final two reflection questions. All six teachers in the data collection sample completed the final two reflective questions.

Ethical Considerations

Throughout this study, I made ethical considerations regarding my role as participant-observer (Merriam, 2009). During this study, I purposefully sampled six primary participants from the teachers at RES due to their completion of the weekly Google Form reflection surveys, their participation in the collaborative professional development opportunities, and the completion of the final paper reflection survey. Other participants involved in reviewing the data collected from the Google Form reflection surveys were the CIG, comprised of me, the Principal, Assistant Principal, local university liaison, and two teacher leaders at RES.

This research followed the University of South Carolina Institutional Review Board protocols for approval. Due to the school-wide collection of this data to design the school's professional development plan, participants' did not provide formal consent. This practitioner inquiry research study's components would have been conducted by the administrative team at RES regardless of this research study. However, I met with all teachers at RES before starting the data collection period and explained the collaborative professional development opportunities and Google Form reflective survey would be part of the data collection for my dissertation in practice. The teachers were allowed to withdraw their data reported in the dissertation in practice, but they could not refuse to participate in the school-wide professional development plan. I asked teachers to email me if they wished to not report their data in the dissertation in practice. No teachers emailed me with this request.

The building principal approved the research study, and collaboratively designed it with me to support the school-wide professional development plan. The research study did not need to be approved by the school district due to the research not involving direct contact with students. However, I informed the school district of the intent to conduct research at RES during the 2020–2021 school year.

The nature of the workplace relationship had the potential to influence my role as I participated in creating and implementing the school-wide professional development plan. My role was discussed and agreed upon with the teachers at RES before collecting data during the initial explanation of the school-wide professional development at the beginning of the 2020–2021 school year.

I had sole control over the data collected for this study. Data were stored in my Google Drive, password-protected, and used only by me. School-wide data from the Google Form reflection survey results were shared with the CIG. However, the CIG did not know which teachers I considered to be the smaller subset of participants for my study, due to it being my dissertation in practice.

I used pseudonyms to protect the study participants' identity, and neither the school nor district are named. General descriptors described participants' number of years of teaching. Primary and secondary teacher categories protected participants' identities from selecting one teacher per grade level for data collection. Additionally, pseudonyms created for the city name, school district, and school protected their identities.

To ensure trustworthiness, member checking was incorporated by sharing the data and analyzing the data with the CIG (Creswell, 2007). The CIG involved two teachers, two administrators, and one local university professor. Data source triangulation and credibility compared the events' participant accounts. Participants in the CIG also participated in or observed the collaborative professional development opportunities. These participants shared their observations and experiences during the CIG meetings.

The CIG meetings and collaborative professional development opportunities established credibility and trust between participants and me. I used participants' responses to design collaborative professional development intentionally as they abruptly changed their instructional model during the global COVID-19 pandemic. The use of teacher leaders within RES as part of the CIG amplified teachers' voices as they analyzed school-wide data. Other teacher leaders were used to facilitate collaborative professional development opportunities. The four sources of efficacy, social networks, teacher voice,

and collaborative teacher inquiry were exhibited throughout these endeavors to elicit CTE during a time of uncertainty.

I achieved triangulation using multiple methodological practices, which added rigor, breadth, complexity, richness, and depth to the study (Denzin & Lincoln, 1998). Reporting the results and themes of the data collected from the Google Form reflection survey to the CIG participants ensured the intended meaning was conveyed in the data. During data reporting to the CIG, I used neutral and unbiased findings to achieve confirmability (Lincoln & Guba, 1985). As data were analyzed and coded, I shared coding categories with the CIG, which were exhausted in Week 7. Also, the CIG member checked the codes to provide another triangulation layer.

Analysis of Data

This section describes the processes used to analyze the qualitative data collected during this practitioner inquiry research study. As part of practitioner inquiry, I completed formative data analysis as the study unfolded during the research process, carefully considering data as I collected it and using my consideration to information instructional decisions and next steps in my inquiry (Merriam & Tisdell, 2016). After collecting all data, I conducted summative data analysis.

Practitioner inquiry requires difficult work on the researcher's part to analyze large amounts of data. Crowley (2009) emphasized being mindful of the point at which information over-saturation occurs and prevents further insight. Analyzing data is not a straightforward matter but a sequenced process of description, sense-making, interpretation, and implication (Dana & Yendol-Hoppey, 2009). The collected data were

analyzed and categorized into themes, and I developed a coding system to categorize the qualitative data (Bogdan & Biklen, 1998).

Qualitative data are analyzed and interpreted, typically, using a two-step approach (Silverman, 2006; Wong, 2008). The first step is to look at what people said. The second step is to interpret what people said in an integrated, theoretical way, such as identifying differences and similarities within the data and between different data sources (Silverman, 2006; Wong, 2008). Table 3.5 outlines the data collected for this study.

Table 3.5 *Data Collection and Analysis Procedures*

Six purposefully sampled participants	Collaborative inquiry group
Google Form reflection survey: • Sent through email seven times • Consists of four questions • Collected through Google Forms and Google Sheets • Initially coded using descriptive coding and shared with the CIG	Atlas Looking at Data Protocol: • Five meetings • Recorded using Google Meet • Extensive memoing • First cycle coded using descriptive and in vivo coding •
Six purposefully sampled participants	Practitioner inquiry group
• First cycle coded using descriptive, in vivo, and emotion codes for 7 weeks • Second cycle coded using pattern coding to look for emerging themes	• Codes collected and analyzed through Google Sheets
Final reflective questions: • Collected through paper and pencil • Developed by the CIG • Consists of two questions • Coded and shared with the CIG • First cycle coded using descriptive, in vivo, and emotion codes for 7 weeks • Second cycle coded using pattern coding to look for emerging themes	

Six purposefully sampled participants	
Collaborative professional development opportunities: • Occurred four times • Recorded through Google Meet • Transcribed • Analyzed using modified CTE Practice Profile • Modified CTE Practice Profile first cycle coded using descriptive, in vivo, and emotion codes • Modified CTE Practice Profile second cycle coded using pattern coding to look for emerging themes • Codes collected and stored in Google Sheets	

Table 3.5 details the data collected for the six purposefully sampled participants and how data were analyzed using methodological approaches indicative of practitioner inquiry research. The responses to the Google Form reflection survey for the six participants were collected using a Google Form and imported into Google Sheets, which I used to create a codebook for the data collected throughout this research study.

Coding disaggregates the data, breaks it down into manageable segments, and identifies or names those segments (Merriam, 1988). Guba and Lincoln (1981) recommended developing categories around three guidelines: (a) the frequency with which participants speak to a topic or theme, (b) the uniqueness of a category, and (c) the quality of a category's contribution to the research question. I coded participants' data using first and second cycle coding methods. Descriptive, in vivo, and emotion codes provided emerging themes during the first coding cycle. During the second cycle of coding, pattern coding helped me analyze those emerging themes with a more detailed lens.

I observed the six participants during the collaborative professional development opportunities using the modified CTE Practice Profile and reported the data gathered for this research. The collaborative professional development opportunities were presented using Google Meet due to the need for social distancing and to accommodate participants outside the school building. I viewed the Google Meet recordings at a later date to use the modified CTE Practice Profile. This allowed me the opportunity to view all professional development sessions through the Google Meet recording. Data from the modified CTE Practice Profile were analyzed and coded using first and second cycle coding methods including descriptive, in vivo, and emotion codes during the first cycle and pattern codes during the second cycle. All of the codes were collected and analyzed in the Google Sheets codebook.

Data gathered from the Atlas: Looking at Data Protocol used during CIG meetings were also analyzed. I recorded the CIG meetings to be transcribed using first and second cycle coding methods and did extensive memoing. Researcher memos (Ravitch & Carl, 2016) help make connections and foster an integrative analysis of the data (Maxwell, 2013).

First cycle coding methods included descriptive, in vivo, and emotion coding. Initial coding created a starting point (Saldaña & Omasta, 2016), and codes developed during first cycle coding related to each other (Glaser, 1978). Descriptive coding led to a categorized inventory of the data's contents (Saldaña & Omasta, 2016). These codes identified the data's topics, not abbreviations of the content (Saldaña & Omasta, 2016). In vivo coding prioritized and honored participants' voices (Saldaña & Omasta, 2016) for this practitioner research study (Coghlan & Brannick, 2014; Fox et al., 2007; Stringer,

2014). With emotion coding, participants' emotional journeys told a story and created a storyline of codes (Saldaña & Omasta, 2016). Emotion codes label participants' emotions or recall (Saldaña & Omasta, 2016). Goleman (1995) defined emotion as a feeling and its distinctive thoughts, psychological and biological states, and propensities' range to act.

The second cycle coding methods included the use of pattern coding. Second cycle coding methods reorganize and reanalyze data coded through first cycle methods. Through this process, I linked seemingly unrelated facts logically to fit categories within one another to develop a metasynthesis of the data (Saldaña & Omasta, 2016). Second cycle coding develops a sense of theoretical organization from the first cycle codes (Saldaña & Omasta, 2016). Pattern coding develops the meta code, which labels categories that identify similarly coded data (Saldaña & Omasta, 2016). These codes organize the data into big ideas and attribute meaning to the organization of those ideas

The qualitative data were analyzed to uncover patterns and themes related to the overall problem of practice and research questions along the way. The goal of these professional development opportunities was to value teachers' social-emotional well-being and design professional development in a way that fostered and encouraged teachers' voices. Teachers realized they all faced similar challenges but did not let that deter them. They believed they could help students achieve through their collaborative efforts in measurable ways (Donohoo, 2017). By working with likeminded professionals, teachers maximized their time to intentionally use professional development opportunities and resources to collaboratively make decisions based on their needs and their students' needs.

I addressed credibility and strength of the research through triangulation (Denzin, 1978; Patton, 2002), which entails "using multiple perceptions to clarify the meaning, verifying the repeatability of an observation or interpretation, and also serves to clarify meaning by identifying different ways the phenomenon is being seen" (Stake, 1994, p. 241). The strategies used to minimize threats to the research's validity include triangulation, maintaining a detailed chain of evidence, addressing alternate explanations, and identifying researcher bias. Minimizing errors and bias was an overall goal when conducting this research (Yin, 2003).

I replicated the practitioner inquiry research design (Cochran-Smith & Lytle, 2009) using reflective surveys, collaborative professional development, and collaborative decision making through practitioner inquiry to ensure reliability in this qualitative, practitioner inquiry research. Using multiple data sources achieved triangulation. I shared the interpretations of findings with all of the teachers at RES, the school's administrative team, district personnel, and local university professors who collaborate with the school through the professional development school partnership. By sharing and reviewing the findings with everyone involved in the study, I enhanced the interpretations' validity.

Chapter Summary

In this chapter, I detailed how practitioner inquiry was the overall methodology guiding this action research study to investigate the successes and challenges most common as teachers were required to abruptly change from face-to-face learning to virtual learning during the global COVID-19 pandemic. I described the context in which I conducted the study, collected data in multiple ways, analyzed the data to guide reflection and inquiry along the way, and triangulated data to ensure corroboration of findings. The

next chapter presents an analysis of the findings from data collection during this practitioner inquiry study.

CHAPTER 4

REPORT OF RESEARCH FINDINGS

The purpose of this study was to investigate the successes and challenges teachers faced as they engaged in professional development opportunities and; collaborative decision making, and exhibited characteristics of collective teacher efficacy (CTE) to provide instruction for students during the global COVID-19 pandemic through face-to-face instruction, hybrid instruction, and virtual instruction. The following research questions guided this study:

1. What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?
2. How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?

This study was driven through the theoretical lens of inquiry as stance. Through the inquiry as stance framework, I used qualitative practitioner inquiry to investigate the specific success and challenges teachers focused on during collaborative decision making as they were required to abruptly change their learning model. Cochran-Smith and Lytle (2001) first introduced inquiry as stance. Through this theoretical framework, teachers who embody this stance are in a continual state of problem posing to effect change and reflection in education (Snow-Gerono, 2005). Teachers generate local knowledge of practice through the joint efforts of practitioners working together in inquiry communities

(Cochran-Smith & Lytle, 2009). The theory of inquiry as stance is grounded in the problems and contexts of practice and the ways practitioners collaboratively theorize, study, and act on those problems in the best interests of the learning (Cochran-Smith & Lytle, 2009).

Four central dimensions of the construct of inquiry as stance proved to be exhibited throughout this study. Practitioners (a) put forward a conception of local knowledge in global contexts; (b) an expanded view of practice as the interplay of teaching, learning, and leading as well as an expanded view of who counts as a practitioner; (c) an understanding of practitioner communities as the primary medium or mechanism for enacting the inquiry as stance as a theory of action; and (d) the position that the overarching purpose of practitioner inquiry is to provide education for a more just and democratic society (Cochran-Smith & Lytle, 2009). Cochran-Smith and Lytle (1999) also identified critical self-awareness, reflection, and openness to new ideas through professional development as critical characteristics of an inquiry stance in educators. As the inquiring practitioner, I engaged teachers in the components of the inquiry as stance theoretical framework by cultivating opportunities for them to be empowered and become reflective practitioners (Posner & Kouses, 1996), agents of educational change (Kieschnick, 2017), and exhibit a voice of activism through collective professional growth (Cochran-Smith & Lytle, 2001) and collaborative decision making (Airola et al., 2011).

I collected data through Google Form reflection surveys extensive memoing of CIG meetings, and a modified CTE practice profile to observe collaborative professional development opportunities during which participants shared their successes and

challenges with the abrupt change of their learning model in collaborative conversations. These data collection methods were essential research tools because aligned with my research purpose, were planned deliberately, and; recorded systematically, and were subjected to checks and controls on validity and reliability (Merriam, 1998).

This chapter presents a descriptive exposition of the findings relating to the themes and subthemes that emerged from the data. First, I outline a chronological narrative of data collection to provide clarity and connections to my overall findings. Next, I describe the data collected from participants responses from the Google Form reflection survey, observations of participants using the Modified CTE Practice Profile, and extensive memoing. I then present a thematic summary of the findings for each research question. Finally, I discuss an interpretation of the key findings.

Chronological Narrative of Data Collection

In this section, I will include a chronological narrative of data collected through this research study. The narrative will provide a detailed account of events that occurred during data collection beginning during the first collaborative inquiry group meeting until the final week of data collection. The sub sections highlight the specific time period in the point of data collection. Within those sub sections, I provide narrative data that is connected and synthesized through substantive explanatory text using visual displays to clearly present the findings.

First Collaborative Practitioner Inquiry Group Meeting

During the first CIG meeting, the group reviewed the Google Form reflection survey questions. The CIG felt the questions were appropriate; however, the CIG expressed concerns regarding how I designed the Likert scale. One indicated a very high

impact, and five indicated little to no impact. The CIG was concerned this would confuse participants if they did not pay attention to the response options or if it was not brought to their attention. I noted this and included it in communication to participants before their first completion of the survey.

The CIG also set meeting times for the data collection period (see Appendix D), which would last approximately the first 9 weeks of the school year. This time frame also correlated with the school-wide professional development plan I designed in collaboration the school principal. The data collected in this study would determine the next steps for the school-wide professional development plan.

Due to the mandated district professional development schedule on preset dates, consecutive weeks of school professional development could not occur. Therefore, the CIG decided to meet immediately before collaborative professional development opportunities to use the most up to date data reported by teachers in the Google Form reflective survey.

First 2 Weeks of Data Collection

The CIG met after 2 weeks of initial data collection from the Google Form reflection survey. During the first 2 weeks of data collection, it was necessary to note the following:

- Two weeks before the school year, teachers received district professional development in *The Distance Learning Playbook: Teaching for Engagement and Impact in Any Setting* (Fisher et al., 2021), and; *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017) through online learning modules.

- All students in kindergarten through second grade had a hybrid learning model (2 days face-to-face instruction and 3 days of virtual instruction) for the first 4 weeks of the 2020-2021 school year due to the COVID-19 pandemic. Students in kindergarten through second grade adjusted to a hybrid model on October 5, 2020, which included 4 days face-to-face and 1 day of virtual instruction. Students in third through fifth grade had a hybrid learning model (2 days of face-to-face and 3 days of virtual instruction) for the first 6 weeks of the 2020-2021 school year. Students then adjusted to a hybrid model on October 19, 2020, which included 4 days face-to-face and 1 day of virtual instruction.
- All students in first grade through fifth grade at RES had individual Chromebooks to engage in instruction in a virtual environment.
- Teachers at RES had a Chromebook, HP laptop, and document camera.
- Kindergarten students did not have devices until the 5th week of school.
- Kindergarten students received refurbished Chromebooks during the 5th week of school due to a delay receiving touch screen Chromebooks.

Prior to meeting with the CIG, I prepared the data by assigning descriptive codes to the raw Google Form survey all teachers at RES completed. I also created graphs of the Likert scale responses and averaged the overall responses at the request of the CIG (see Appendix H). The CIG efficiently and effectively engaged in the Atlas: Looking at Data protocol due to my sharing the data ahead of time. During this first meeting, the CIG noted several key points. Even though the questions included specific topics, inductive themes emerged from each question and were consistent over multiple

questions. The CIG used these themes group teachers based on their responses (see Table 4.1).

Table 4.1 *First Set of Collaborative Professional Development Themes*

Theme 1: Logistics	Theme 2: Planning and engagement	Theme 3: Navigating SeeSaw
Descriptive codes: • Logging on • Google Meet problems • Lady Bug problems • Microphone • Parent training • All things Google	Descriptive codes: • Classroom schedules • Creating a classroom experience virtually • Keeping students engaged	Descriptive codes: • Creating assignments • Posting notes • Communicating with parents • Communicating with students
Teachers *n* = 12	Teachers *n* = 16	Teachers *n* = 14

The collaborative professional development opportunities were very beneficial for the teachers at RES. Tina, a teacher leader at RES who mediated a session to guide the internalization process (Eun, 2018) shared, "it was beneficial to have time to talk about the challenges teachers experienced and ways they navigated them." Overall, each session had great conversations focused on the topic, most teachers spoke in some way, asked questions, used positive and encouraging language, and everyone seemed very appreciative of the time. It was time teachers needed to simply problem solve the challenges they were experiencing and learn from others' successes. Teachers became practitioners sharing their collective knowledge to enact positive change (Cochran-Smith & Lytle, 2009) and determined a meaningful focus to formulate a theory of action (Donohoo, 2017).

During the first collaborative professional development session, the teachers asked each other intentional questions to elicit information regarding what works well

and what does not work well regarding specific topics based on the session they attended. The teachers provided positive and encouraging talk to each other, such as, “What a great idea!” “I will have to try that.” “I love the way you did that.” Teachers asked intentional questions to process new learning and apply it to their current situation. For example, Christina modeled SeeSaw to see which students have completed an activity and how to provide feedback to students. The collaborative professional development environment enhanced the development of the practitioners and was conducive to equipping teachers with innovative ideas that have proven to make a difference in study learning (Bandura, 1997). The social cognitive theory suggested these experiences are important sources of self-efficacy (Bandura, 1997): the enactive mastery experiences and vicarious experiences.

I observed all the modified CTE Practice Profile areas except the collaborative collection of data. The formal structure of this collaborative professional development opportunity did not lend itself to the collaborative collection of data that intentionally supported students’ needs. However, this process provided teachers with new learning opportunities to do that by sharing resources and experiences with various instructional technology tools.

Overall, the vicarious experience (Bandura, 1997) ranked as the most substantial area from the modified CTE Practice Profile (see Appendix B) during the first collaborative professional development opportunity. I observed teachers sharing instructional strategies and practices to support the students within their classrooms. For example, Stephanie modeled SeeSaw and designing slides ahead of time in the platform to maximize the use of class time. Social persuasion supported teachers’ vicarious

experiences through positive talk and encouragement as teachers bravely shared their successes and challenges with colleagues. A teacher shared she liked adding activities but could not see them clearly. Mary asked, “Have you tried zooming in?” Anne successfully implemented this strategy previously and shared her new learning with a colleague. New learning emerged as many teachers shared their excitement to try new instructional strategies with their students. After learning about a new tool in the planning and engagement session, Tina shared, “this a cool new tool that I can use to replace Google Slides and it may engage my students more.”

Third and Fourth Week of Data Collection

I shared the Google Form reflection survey through email with the 42 certified teachers at RES at the end of the week. I analyzed the data from the survey and prepared for the next meeting with the CIG. The CIG meetings and collaborative professional development opportunities were consecutive for these weeks due to the school-wide professional development plan structure. It is essential to note the following for the 3rd and 4th week of data collection:

- All of the RES students were still participating in a hybrid instruction model.
- Kindergarten students did not have technology devices.

I analyzed the qualitative responses from the Google Form reflection survey using the first cycle coding method of descriptive coding. The CIG examined the descriptive codes and the averages from the Likert scale responses to look for growth over time in the four different question responses using the Atlas: Looking at Data protocol (see Appendix C and Appendix H).

During the CIG meeting, several vital reflections emerged through the Atlas: Looking at Data protocol that aligned with my research purpose. The CIG group observed teachers' technology logistical struggles dramatically impeded instruction during the first 2 school weeks. However, these challenges improved during the third and fourth week based on the data from the Likert Scale responses and the open-ended responses. For example, Anne shared, "this week has been so much smoother. Students have gotten the hang of our routines and we don't have very many issues." Teachers learned how to navigate technological challenges and implement new instructional technology tools in their classrooms during this time period. Tina indicated, "I found new ways to check in with my students virtually and my students have really settled in to using Google Classroom." Observing successful models served as a vicarious source of increased efficacy because teachers came to believe they possessed the knowledge and skills to perform successfully what the models achieved (Bandura, 1997).

The CIG inferred from the data that implementing instructional technology tools and learning about these tools came from conversations with colleagues, collaborative professional development opportunities, and personal investigation of the tools. Teachers communicated they would much rather learn from each other than watching a video or completing a learning module. The sociocultural theory emphasized social interaction that occurs during the training sessions is one of the main mechanisms for teacher development (Eun, 2018). Teachers wanted to have conversations to think through the implementation of these instructional technology tools within their classrooms, ask questions, and collaboratively make decisions with colleagues. Therefore, the CIG

determined the district's instructional modules did not meet the learning needs of teachers due to the overwhelming conditions at that time.

Once the CIG completed the data analysis through the Atlas: Looking at Data protocol, we formed affinity groups based on the successes and challenges indicated by the teachers. Table 4.2 displays the groups for the second collaborative professional development sessions.

Table 4.2 *Second Set of Collaborative Professional Development Themes*

Theme 1: Engagement	Theme 2: Planning	Theme 3: Platforms and tools
Descriptive codes: • Keeping students engaged from a distance • Communicating with parents	Descriptive codes: • Classroom schedules • Creating a classroom experience virtually • Using various tools to create fluid schedule	Descriptive codes: • Management of assignments • Tips and tricks
Theme 1: Engagement	Theme 2: Planning	Theme 3: Platforms and tools

• Incorporating breaks and varying tasks throughout the day
• Creating authentic learning experiences
• Helping students feel connected
	• Staying on target
	• Assessing students
	• Not spending all weekend planning!
	• Building student independence
		• Types of activities
		  ○ Assignments
		  ○ Assessments
		• SeeSaw, Google Meet, Peardeck, Nearpod

Teachers affinity grouped: 12	Teachers affinity grouped: 16	Teachers affinity grouped: 14

During the collaborative professional development session, I used the modified CTE practice profile (see Appendix B) to observe the teachers' interactions. The data indicated a continuation from the first collaborative professional development sessions and the four sources of efficacy proved to be very strong. Teachers shared their successes and challenges regarding topics relating to their sessions. The majority of the topics

focused on instructional technology tools that would allow teachers to implement the same instructional strategies they would generally use within their classrooms. Stephanie shared how students record themselves using Razkids. By learning about these instructional technology tools, teachers moved to create virtual learning environments that mimicked the traditional face-to-face classroom. In the planning session, many teachers asked questions about break out rooms to provide opportunities for small group instruction, which teachers were unable to do successfully in the virtual environment at this point in the school year.

Mary helped teachers learned how to complete math worksheets using SeeSaw by scanning them and having students edit them using the app. She also showed how she provided feedback to the students using the app. A challenge that arose during this session focused on providing timely feedback, which proved to be a struggle in SeeSaw. The teachers in the planning session agreed to seek a solution. A developmental mechanism put forth by the sociocultural theory described the importance of the interaction between more competent and less competent (Eun, 2018). As teachers engage in repeated interactions, the strategies, feedback, and discussion shared on the intermental plane, they become internalized (Vygotsky, 1978). Several of the conversations throughout the collaborative professional development sessions began to lead to assessing students and gathering data, which showed teachers' new learning of instructional technology tools helped grow their confidence in applying these tools to learn more about their students. These practitioners were deeply engaged in the work of teaching and learning and knew something about that work (Cochran-Smith & Lytle, 2009). Collectively with one another, these educators had the capacity to generate and critique

knowledge, figure out how to use knowledge generated by others, improve practice, and enhance students' life chances (Cochran-Smith & Lytle, 2009).

Fifth and Sixth Weeks of Data Collection

The 5th and 6th weeks of data collection proved to include important events. Throughout the 4th week, all teachers instructed students using a hybrid instructional model. During the 5th week, kindergarten through second grade students returned to school 4 days a week (see Appendix D). The model was still considered a hybrid learning model due to 1 day being a virtual learning day. However, teachers had their students within their physical classrooms 4 days a week. Students came to school in a face-to-face instructional model on Monday, Tuesday, Thursday, and Friday. Teachers used Wednesday as a virtual instruction day and a cleaning day for the school. Therefore, no teachers were allowed in the building unless they had technology issues at home. Third through fifth grade students continued with a hybrid instructional model attending face-to-face instruction 2 days a week and virtual instruction 3 days a week.

I analyzed Google Form data from the 5th and 6th week and prepared for the CIG by applying descriptive codes (see Appendix H). The CIG used the Atlas: Looking at Data protocol to review the data and noticed a shift in the responses. Many teachers indicated much more positive responses because they saw their students face-to-face 4 days instead of 2 days. Anne shared, "the 4-day face-to-face makes this so much better." Mary stated, "being in school four days face to face has helped so much." She also said, "student engagement has been a lot better being back in person." The CIG also observed fewer teachers completed the reflective questions. One CIG member suggested teachers

did not feel the technology aspects of the survey applied anymore since less technology was being used or needed now that teachers were with students 4 days a week.

This comment started a conversation regarding the continued use of technology regardless of the instructional model. Most CIG members conveyed the importance of technology as a tool to support instruction regardless of the instructional model. One noted, “We will continue to be one to one with devices and we do not want the devices just to sit on the shelf.” However, this was not the view of all CIG members. One CIG member felt instructional strategies used prior to the implementation of one-to-one technology proved to be more beneficial for students’ educational needs, stating,; “I am going to go back to what I know works best.” Therefore, the CIG worried technology use by students would not be a priority moving forward. One member shared, “I would hate for successes to go by the wayside because this is a time for great change.” Another agreed, “This new learning could lend itself to some organizational change.” According to Bandura (1997), outcome expectation is a judgement of the likely consequences certain actions will produce. Incorporating blended learning and technology use was valued by some practitioners and not valued by others. A prediction by the CIG relating to collective efficacy was that the action required to produce given levels of attainments (Bandura, 1997) were no longer needed in the face-to-face environment.

The CIG grouped the teachers at RES based on their responses to the Google Form reflection survey during the 4th and 5th week of data collection. Table 4.3 displays the affinity groups for collaborative professional development opportunities.

Table 4.3 *Third Set of Collaborative Professional Development Themes*

Theme 1: Engagement	Theme 2: Planning	Theme 3: Grading and assessing	Theme 4: Accountability
Descriptive codes: • Helping students navigate platform • Helping students feel connected • Creating more student-to-student interaction, partner work • Using and managing small groups in a virtua environment • Building independence and ownership	Descriptive codes: • Managing time • Getting into a rhythm • Rethinking how t teach in these circumstances • Using various resources • Using what we know works well • Tools to keep during face-to-face	Descriptive codes: • Success criteria • Formative feedback along the way • Peer-to-peer feedback • Variety of ways to assess in the virtual environment • Tools to keep during face to face • Grouping and differentiating for varying needs of students	Descriptive codes: • Keeping students on task • Supervising students during virtual work • Expectations and procedures • Using tools independently • Setting up a successful virtual environment • Managing an off camera
Theme 1: Engagement	Theme 2: Planning	Theme 3: Grading and assessing	Theme 4: Accountability
• Tools to keep during face-to-face	• Creating and managing small groups in a virtua environment		• Getting students to come back to the meet
Teachers affinity grouped: 14	Teachers affinity grouped: 13	Teachers affinity grouped: 7	Teachers affinity grouped: 8

As indicated by the affinity groups for collaborative professional development opportunities, teachers became more accustomed to the challenges of technical logistics and troubleshooted those challenges successfully. Their belief or conviction that they could influence how well students learn, by overcoming challenges beyond their control (Bandura, 1997), positively impacted their collective teacher efficacy (Hattie, 2018). Teachers made a shift during these weeks to voice successes and challenges related to instructional practices. Mary used SeeSaw for independent work time and indicated,

"Students pop back into the Google Meet to check in and this works well when handling the various work times of students." Anne shared "I tried Jamboard this week for a math activity." The successes with instructional practices lead to a need to learn more about assessment and grading, as well as planning. Heifitz (1994) recognized the need to grow knowledge, capacity to deal with adaptive challenges, and solve problems in the act of working on them as part of inquiry as stance.

I shared the Google Doc summarizing the affinity groups for the collaborative professional development with the teachers and reviewed the Google Meet recordings using the modified CTE Practice Profile for the six purposefully sampled participants. Several participants in each session had been grouped with similar participants in the previous sessions, and the conversations were not as rich as they had previously been. Each session lasted approximately 30 minutes, where as sessions in previous weeks lasted over an hour. I assumed teachers did not have as many successes and challenges to share due to the shift to face-to-face instruction to 4 days a week. Teachers felt as though they could resume their "normal" instruction as indicated by their Google Form reflection survey results and their conversations during the collaborative professional development sessions. In her final reflection, Christina mentioned how this session; "became repetitive and people kept talking about the same things they had previously talked about."

The modified CTE Practice Profile also indicated a shift in focus to more data-driven conversations and how to elicit more data from students in a virtual environment. However, the instructional model shifted to all students returning to 4 days of face-to-face instruction shortly after this collaborative professional development session. During this session, teachers shared how they collected data from their students using

instructional technology tools. Anne shared, “I used Jamboard for a math problem and created a page for each student, which helped a lot.” She also modeled this for the group as teachers asked her questions. Anne pointed out “this gives me real time data, which I can’t get in SeeSaw.” Tina shared with her session, “I hope we continue to use these strategies when we go back face to face so that we are prepared if this happens again.” Laurie shared, “I use the quiz feature in Google Forms to give feedback to students based on the answer they chose.” She modeled this feature for a colleague and walked her through the process of creating it.

Through inquiry as stance, practitioners make their own knowledge and practice problematic and also make problematic the knowledge generated by others (Cochran-Smith & Lytle, 2009). Constructing local knowledge is a process of building, interrogating, elaborating, and critiquing conceptual framework that link action and problem posing to immediate contexts (Cochran-Smith & Lytle, 2009). Discourse around the shift to 4 days face-to-face instruction incited a need to continue critical conversations about the opportunities and new learning experienced by practitioners during collaborative professional development opportunities. Behind the framework of inquiry as stance is a notion of what it means for practitioners to work as professionals when the challenges they confront require knowledge and skills that do not yet exist, but must be invented in the course of working on the problem itself (Cochran-Smith & Lytle, 2009).

The social cognitive theory distinguishes between acquiring knowledge and skills and putting them to use (Eun, 2018). Acquiring new knowledge and skills may not be put into use because (a) practitioners may not have the self-efficacy beliefs that they can translate into practice; and (b) the acquisition of new knowledge and skills may not

translate into performance, even if people have a strong sense of efficacy, if there are strong disincentives or performance constraints (Eun, 2018). Research has indicated school-level performance incentives comes from strong leadership, adequate resources, and continuous support of the use of innovative instruction in the classroom (Bandura, 1997).

Seventh Week of Data Collection

I sent the Google Form reflection survey to teachers through email during Week 7 of data collection. Due to district-mandated professional development, the CIG did not meet following the last meeting and collaborative professional development opportunity. Grades third through fifth moved to 4 days of face-to-face instruction. Therefore, all teachers instructed students using a hybrid instructional model, meeting face-to-face 4 days a week.

I prepared the data for the CIG using descriptive coding methods, along with overall averages for all 7 weeks of the Likert scale. The CIG used the Atlas: Looking at Data protocol to review the data collected for the 2 weeks since the last CIG meeting and all of the data for the entire 7 weeks of data collection (see Appendix H). During the CIG discussion, the group discussed data saturation due to the same themes emerging to group teachers.

Instead of grouping teachers for the last collaborative professional development opportunity, the CIG decided to structure the collaborative professional development session differently. The CIG asked teachers to meet with their grade-level teams during the collaborative professional development session and share one new learning in the

form of an artifact from the past 8 weeks. The artifact could be a picture, a link, or any other form chosen by the teacher.

The CIG created an additional column in the school-wide Padlet called "Artifact Sharing: Add one artifact that reflects your learning over the past few weeks!" (see Appendix A). All 42 teachers had access to add to the Padlet to view other teachers' posts. This transparency allowed teachers to learn from each other and celebrate each other's success as they overcame challenges.

Eighth Week of Data Collection

I created and recorded Google Meets for the six different grade levels. I observed the six purposefully sampled participants using the modified CTE Practice Profile, which elicited more data focused on the vicarious experience due to teachers sharing artifacts related to their learning over 8 weeks (see Appendix H).

During this last collaborative professional development session, all students at RES returned to school 4 days face-to-face. Five teachers shared new learning from the collaborative professional development sessions. One teacher shared a science activity she completed with her students during face-to-face instruction that increased engagement. The teachers engaged in high teacher voice and social networks as they shared their artifacts with their grade-level teams, as reflected in the data collected using the modified CTE Practice Profile.

For example, Anne shared her learning from Peardeck and how she modified a colleague's suggestions after one of the collaborative professional development sessions. Through this modification, she altered the instructional technology tool to meet her students' needs and provide her with the data she needed at the time. Mary shared an

instructional technology tool she continues to use with her grade-level team even though they returned to the 4 days of face-to-face instruction. The tool provided quick formative data to guide instructional next steps, which the grade level team found extremely beneficial. Teachers continued to ask questions. Tina shared an instructional technology tool called Scope. Several teachers asked her what it was, where to locate it, and how she uses it with her students. However, teachers did not pose as many questions as they had in previous collaborative professional development sessions. The majority of the time was spent sharing artifacts, which exhibited they had become reflective professionals and thoughtful decision makers (Eun, 2018) as part of inquiry as stance (Cochran-Smith & Lytle, 2009) and action research (Herr & Anderson, 2015).

Description of Data

In this section, I describe the findings from the data collection methods used in this study: the Google Form Reflection Survey, the Modified CTE Practice Profile, and extensive memoing. I organized the Google Form Reflection Survey findings by question. The Modified CTE Practice Profile findings are organized by sections outlined on the profile (see Appendix B), which include the four sources of efficacy (i.e., mastery experience, vicarious experience, social persuasion, and affect state), social networks, teacher voice, and collaborative teacher inquiry. The main findings are summarized by several key themes that emerged from the data.

Google Form Reflection Survey

When teachers were required to abruptly change from a face-to-face instructional model to a hybrid or virtual instructional model, they focused on may things when reflecting on their practice using a weekly Google Form reflection survey. As noted in

Chapter 3, I administered the Google Form reflection survey to all 42 certified teachers at RES (see Appendix E) and purposefully sampled based six teachers who completed all 7 weeks of the survey. I coded the teachers' qualitative, open-ended responses to the four questions using first and second cycle coding methods to elicit emerging themes. The overall themes that emerged are described in detail throughout this section and summarized in Table 4.4.

Table 4.4 *Google Form Reflection Survey Successes and Challenges Pattern Codes*

Category	Question 2	Question 4	Question 7	Question 9
Successes	Face-to-face success Navigating platform success	Using Google Classroom and SeeSaw Introducing small amounts of technology at a time Became more comfortable over time (teachers and students)	Engagement increased face-to-face Planning for face-to-face instruction easier	Returning to face-to-face instruction
Challenges	Google Meet issues Video issues Sound issues Freezing delays	Teaching platforms and tools on face-to-face days Using external document camera Troubleshooting technology virtually	Engaging students an entire day virtually Planning for virtual instruction Collaborative work & COVID-19 protocols	Student engagement and motivation virtually

Question 2: Successes and Challenges

Technology issues and technology logistics significantly impacted overall instruction in the first few school weeks. Issues included being kicked out of Google Meets, sound problems, screens freezing, and delays. All of the issues occurred when teachers were using Google Meet, the video conferencing tool mandated by the district. Several participants reported having to stop instruction to give students asynchronous work because technology negatively impacted their instruction to the point they could not teach. Teachers reported multiple students getting kicked out of Google Meet and unable to rejoin the class. When students were unable to rejoin the class, they missed instruction, parents became concerned, and teachers had to help students catch up. Christina shared:

> Tech was a beast this week. I was kicked out of the same meet 3 times, at one point I had one device for a microphone and another for the camera, but got horrible feedback when I tried to hear kids even with my mic muted. I ended up signing off earlier than I had anticipated, because tech was interfering so much with any sort of learning.

Teachers experienced sound issues students could not hear the teacher or the teacher could not hear the student. Anne indicated, "today at school was REALLY hard. I was freezing a lot, and the kids were having trouble hearing what I was saying and seeing what I was presenting." Muting and unmuting would not solve the problem. One of the only ways to resolve the problem was completely shutting down the computer and logging back into Google Meet. The teacher would have to communicate with the students through the chat feature what they were doing and have students wait patiently for them to return, or vice versa for a student experiencing the problem. These logistical

technology issues created an abundant amount of lost instructional time. Laura shared, "Some student technology still presented issues with audio. This was very sporadic and often the usual fixes would not solve the problem. We had this happen on about 5 different occasions this week."

Video issues mimicked the same process as sound issues. At times, teachers would not see students on the screen. It would appear as if they had their camera off, but they did not. The only way to solve this problem was to log out and shut down the computer. Many times, this would not resolve the video issues. Teachers also had a difficult time playing videos within the Google Meet using an alternative web-based platform. For example, several teachers wanted to show a Brain Pop video, but it would not play through Google Meet. Several teachers attempted to solve this issue and found sending the video for students to watch ahead of time was one option. Tina also shared, "I had several students getting kicked out when I recorded. I stopped recording because I don't have those issues when I don't record."

Screens' freezing and being on a delay also happened often when teaching virtually through the Google Meet video conferencing platform. Screens freezing would occur when the person speaking or presenting looked "frozen" on the screen. Delays would occur when teachers tried to transition to a new tab, share their screen, or load a website. These challenges could have been due to a connection issue; however, teachers experienced it when working at school and at home. There was no exact time or consistent pattern when these issues would occur. Anne shared, "I still have a lot of delays and freezing when I am at home on Wednesdays. I'm not sure how to fix that, but it definitely impacts the flow of my lessons."

Teachers learned to use their face-to-face instructional days to teach students how to navigate some of these technical problems efficiently and effectively to help reduce missed instructional time. The administration team communicated these concerns regarding Google Meet to the district, which were, in turn, communicated to Google. Google performed several updates to the Google Meet video conferencing platform over the first 4 weeks of data collection, which helped reduce the number of challenges teachers experienced.

After the first few weeks, technology issues were somewhat less but still a concern for teachers. As teachers transitioned to 4 days of face-to-face instruction, they communicated technology logistics were much better. They continued to have some issues with audio, delays, and freezing; however, overall everything was better from the viewpoint of the teachers.

Question 4: Successes and Challenges

As previously mentioned in Question 2 responses, teachers valued their face-to-face time with students for teaching instructional technology tools; however, they also saw this as a challenge. They indicated they were "using precious face-to-face time so their virtual days would run more smoothly." Teachers coveted their face-to-face time with students. Teaching students how to use these tools seemed necessary to teachers, but teachers also viewed it as something that took the place of real instruction.

Troubleshooting problems that arose with students through the virtual instructional model was challenging for teachers. Many students had questions that would disrupt the flow of the class. Some students had questions or concerns when other students did not. Finding a way to provide directions and assistance to students was a

concern of teachers. Anne shared, “I’m going to have to spend a lot of time on Monday and Tuesday of next week practicing SeeSaw in the classroom so I can help direct them.” Christina also shared:

> some of the trouble for me is just that my time to practice some of these things seems to only be with students. Somethings have to have a larger group of people to try out (not that I haven’t practiced what I could with my poor family). Having a way to practice or time to practice things in advance or troubleshoot would be really helpful.

The school’s document camera caused many challenges for teachers as they instructed students using Google Meet. The document camera and Google Meet would both try to take over the camera function in the computer, leading to teachers not displaying anything to their students, the camera feature’s not working at all, or the teacher’s having to shut down and restart the computer entirely. Each of these led to lost instructional time.

Through these challenges, many successes emerged. The teachers saw Google Classroom and Seesaw as successful learning management systems for facilitating instruction. The district selected and paid for these systems. Kindergarten through second-grade teachers had access to Seesaw as their primary learning management system. They also had access to Google Classroom through their Google account. Third through fifth-grade teachers had access to Google Classroom as their learning management system. Teachers had opportunities to attend an informational session before starting the school year on these learning management systems. However, most teachers learned how to use these tools independently, through collaborative professional

development opportunities provided by the school, or through collaborative conversations with other teachers. Many participants indicated they would continue to use these learning management systems regardless of the instructional model. Laurie shared, “kids have gotten a great handle on google classroom. We will be using it frequently even with being back in person.”

Over time, teachers and students became more comfortable with the instructional technology tools and resources available to them. Teachers viewed this as a success because technology impacted so much of what they accomplished in the virtual learning environment. Through these tools, teachers delivered instruction, engaged students, and assessed students’ learning. The primary tools teachers indicated they used were Google Classroom, SeeSaw, Jamboard, Google Slides, and Peardeck.

According to the teachers, limiting the number of instructional technology tools and only introducing them one at a time was a success, whereas trying to use too many instructional technology tools became overwhelming. Laurie shared, “I reeled it back in on trying to too much technology with the kids.” However, minimizing the number of tools significantly increased the success of using them long term for students and teachers. Christina indicated, “Keeping it to just a couple of new tasks was helpful.”

Question 7: Successes and Challenges

Engagement was a consistent concern of teachers. Participants found it challenging to engage students all day in the virtual learning environment. Many teachers asked for suggestions for getting students up and moving to be engaged throughout the day. Anne shared, “It’s much harder to keep them engaged on the computer all day. It’s also hard to judge their engagement when you are talking to a quiet screen.” Teachers

also searched for instructional technology tools that would engage students in various ways. Engagement was a concern in the virtual instructional environment all 7 weeks of data collection.

With engagement challenges in mind, teachers struggled to plan for virtual instruction. Christina shared, “On virtual days there are still some problems with student engagement, mostly because of tech issues, but face-to-face days, students are interactive with me and the group.” Teachers expressed it took twice as long to plan for virtual instruction as it did to plan for face-to-face instruction. Many of the teachers’ instructional technology tools had to be created, which was very time consuming and created stress and anxiety. Anne shared:

> I’m having a hard time with planning at this point. I’m spending my entire weekend working on plans (especially for virtual days) and finding or creating activities on SeeSaw to get them through the day. It’s so different than teaching face-to-face, and everything from the flow of the lesson to how it is presented is different and new.

Teachers asked for more time to plan to help them not be overwhelmed.

Several participants mentioned students’ concerns about having collaborative opportunities when they were face-to-face given the COVID-19 protocol in place during this time. Christina indicated she was, “unsure of what was acceptive for moving about the classroom and working with partners.” Teachers wanted to provide students with opportunities to collaborate but found it challenging because they needed to be physically distant from each other. Students could engage in collaborative conversations in the virtual learning environment more easily than in the face-to-face environment due to the

COVID-19 protocols. Teachers could use Google Breakout rooms for students to collaborate in small groups.

Teachers expressed their challenges with engagement and planning for the virtual instructional model but succeeded with the transition to 4 days of face-to-face. Tina shared, “it was much easier to plan for F2F instruction.” Teachers shared overall student engagement increased when they were face-to-face in the classroom. Teachers found it easier to plan instruction for the 4-day face-to-face model.

Question 9: Successes and Challenges

This question elicited the fewest responses from the purposefully sampled participants and the remainder of teachers who completed the Google Form reflection survey. Overall, the challenge expressed in teachers’ responses focused on student engagement. Teachers found it difficult to keep students engaged in the virtual learning environment. Factors that contributed to the students’ disengagement were the home environment, having to sit still the majority of the day, and the inability to interact with their peers physically. Mary shared, “I am finding it kind of hard to come up with fun ways to get them moving and off of the computer! These kiddos are doing a great job, but I know it is hard having to sit so much throughout the day.”

However, teachers observed a shift in engagement as students returned to face-to-face instruction 4 days a week. Teachers shared students were excited to be back at school more during the week. Laurie mentioned, “Students are excited to be back in person." When students made this transition, they only had a half-day virtual learning on Wednesday morning. Teachers found they engaged students more during the shorter

period of time on the half day and found it a success. Tina shared, “engagement was very high this week” during the first week back 4 days face-to-face on the virtual Wednesday.

Reflective Questions

The CIG elected to provide teachers with two reflective questions instead of sending out the Google Form reflection survey for an 8th week. The CIG made this decision due to the minimal qualitative responses received in Week 7, along with somewhat repetitive themes emerging during Weeks 5–7 of data collection. The questions were designed to elicit reflective responses regarding collaborative professional development opportunities and whether they were responsive and beneficial to the RES teachers. Table 4.5 presents a summary of the overall themes that emerged after the first cycle and second cycle coding.

Table 4.5 *Themes From First Cycle and Second Cycle Coding of the Reflective Questions*

Questions	As you consider the successes and challenges you have faced over the past 8 weeks, please let us know: Question 1: Did you feel the collaborative professional development opportunities were responsive to your needs? Please explain.	As you consider the successes and challenges you have faced over the past 8 weeks, please let us know: Question 2: Were these collaborative professional development opportunities beneficial to you? Please explain.
Emerging themes	Talking about things that mattered to them was beneficial Had a time and space to discuss needs Teachers were able to hear they were not alone in their struggles	Learned and tried new things Time to learn from others Sharing and collaborating with others Hearing teachers were in the same waters Became repetitive

Overall, the responses indicated collaborative professional development opportunities were responsive to teachers' needs. Tina shared, "I loved talking about things that mattered to me and were needs I had." Stephanie shared, "it was great to be able to share ideas and collaborate with others." Participants benefited from talking with other teachers about things that mattered to them. Having a time and space to discuss their needs and hear they were not alone in their struggles was responsive to teachers' needs. Teachers learned and tried new things because these collaborative professional development opportunities, allowed them to share and collaborate with other teachers. The majority of challenges teachers faced turned into successes by the time data collection ended.

Christina shared, "conversations did become shorter as time went on because we were running out of things to discuss." The CIG also recognized the collaborative professional development opportunities had become repetitive. This recognition led to the decision to end this collaborative professional development format and design the next steps based on the data collected in this research study.

Modified CTE Practice Profile Data

I used the modified CTE Practice Profile (see Appendix B) during collaborative professional development opportunities to elicit information regarding the four sources of efficacy (Bandura, 1986), social networks, teacher voice, and collaborative teacher inquiry. I used this data to determine what happens to collective teacher efficacy when teachers were required to dramatically and quickly change their practice.

I observed the six teachers purposefully sampled for this study using the modified CTE Practice Profile during four sessions designed by the CIG. Teachers were grouped

based on their responses to the Google Form reflection survey for the first three sessions. Some participants were grouped because they indicated success in an area, and others were grouped because they indicated an area to be a challenge. Table 4.6 displays a summary of the different participants and the topics the CIG assigned them based on their responses to the survey. The fourth session was an artifact sharing session with participants' grade-level team based on new learning over the 7 weeks of professional development.

Table 4.6 *Sample's Collaborative Professional Development Opportunity Topics*

Pseudonym	Session 1 Topic (Grouped)	Session 2 Topic (Grouped)	Session 3 Topic (Grouped)	Session 4 Topic (Choice)
Stephanie	Seesaw	Platforms and tools	Planning	Seesaw
Tina	Seesaw	Planning	Planning	Jamboard
Christina	Seesaw	Engagement	Engagement	Problem solving
Anne	Logistics	Platforms and tools	Grading and assessing	Peardeck
Laurie	Logistics	Planning	Engagement	Google Forms
Mary	Planning and engagement	Planning	Engagement	Peardeck

I coded the data using first and second cycle methods to elicit emerging themes. The first cycle codes were descriptive, in vivo, and emotion codes. The second cycle codes were pattern codes. Coding allowed me to make discoveries, insights, and connections about participants and their processes (Saldaña & Omasta, 2016). Coding also allowed me to view themes that emerged based on the data in each section of the

modified CTE Practice Profile, including the four sources of efficacy, social networks, teacher voice, and collaborative teacher inquiry.

The four efficacy sources include the mastery experience, the vicarious experience, social persuasion, and affective state (Bandura, 1986). Social networks include collaborative conversations and shared leadership experiences (Donohoo, 2017). Teacher's voice denotes a collaborative problem-solving approach and sharing ideas and experiences in the decision-making process (Cochran-Smith & Lytle, 2001). Finally, collaborative teacher inquiry involves using a formal meeting structure, building a consensus, collaboratively collecting and analyzing data, and determining the next steps as a team (Merriam & Tisdell, 2016).

Mastery Experience

Mastery experience, the most potent source of efficacy, involves "acquiring the cognitive, behavioral, and self-regulatory tools for creating and executing an effective course of action to manage ever-changing life circumstances" (Bandura, 1986, p. 80). When team members expect the successful implementation of a new skill, the team's CTE increases (Bandura, 1997; Donohoo, 2017). The essential question used on the modified CTE Practice Profile to help focus data collection was: How do teachers collect data to indicate they have successfully implemented an instructional strategy or practice?

Several themes emerged that exemplified mastery experience. Many participants shared various instructional technology tools they successfully implemented in various learning environments to instruct students. Several of these tools allowed teachers to collect formative data from their students. By collecting data, teachers were able to determine if they implemented an instructional strategy successfully and whether or not it

should be repeated. Table 4.7 outlines the teachers' instructional technology tools instrumental to teachers' mastery experience and how those tools provided such an experience. The teachers attributed the instructional strategy and tool to be within their control and repeated their performance to create a mastery experience.

Table 4.7 *Instructional Technology Tools*

Instructional technology tool	How does this tool provide a mastery experience?
Seesaw	• Learning Management System • Allows teachers to create activities and determine which students have completed the activity • Allows teachers opportunities to give verbal and written feedback • Allows parents to give feedback to their students • Activities and assignments in Seesaw can be shared with other teachers
Brainpop	• Allows students to watch assigned videos on content specific to what they are studying • Provides students with short quizzes to check for understanding
Quizzes	• Can help students review important information • Can be shared with other teachers • Allows students to review at own pace • Give teachers feedback on students who need more support
Razkids	• Allows students to read books on their level • Provides short assessments to check students' understanding • Provides teacher data based on students' successes and needs
Reading A-Z	• Allows teacher to assign tasks to students based on their needs • Provides teacher data based on the successes and needs of students
Google Forms	• Can be designed by teacher to elicit information from students • Can give students feedback based on their answer choices • Can be used as quizzes, exit slips, and reflection forms • Can be shared with other teachers
Jamboard	• Allows students to interact with the content • Teacher can assess student in real time • Teacher can give student feedback in real time

Vicarious Experience

Vicarious experience is the second most influential source of efficacy and is exhibited through role modeling (Bandura, 1986). When teachers see others who are faced with similar challenges and opportunities perform well, they too think they can overcome obstacles (Donohoo, 2017). CTE grows when teams of educators observe success in school environments similar to their own (Donohoo, 2017). In this research, the teachers exhibited vicarious experiences when they shared their successes and challenges through collaborative professional development opportunities.

During the collaborative professional development opportunities, the following guiding question was used on the modified CTE Practice Profile to observe vicarious experiences: How do teachers see others implement instructional strategies or practice? Throughout each collaborative professional development opportunity, participants shared examples and experiences of new instructional strategies they had implemented with their students. Table 4.8 displays a summary of the different instructional strategies participants shared that influenced other teachers to implement the strategies in their classrooms.

Table 4.8 *Vicarious Experience Data From Modified CTE Practice Profile*

Teacher	Instructional strategy and summary of vicarious experience
Stephanie	• Shared the use of Reading A-Z during a collaborative professional development opportunities • Shared it can be used to assess letter recognition for students and data sent to teacher • Modeled how to use it and what the data looked like by sharing screen through Google Meet • Answered questions from two different teachers

Teacher	Instructional strategy and summary of vicarious experience

Tina	• Shared she tried Jamboad for the first time based off her experiences from a previous collaborative professional development session
	• Watched YouTube videos to learn more about Jamboard
	• Shared her successes with her collaborative professional development group
	• Shared an example during the artifact sharing session with her team
	  ○ Shared new learning from the first time she used Jamboard
	  ▪ Create a board for each student
	  ○ Shared why she prefers Jamboard to Seesaw
	  ▪ Jamboard can provide real time student work which allows teacher an opportunity to give student feedback in real time
	  ▪ Seesaw does not allow for real time production of work or feedback

Christina	• Shared ways to view students who have completed an activity in Seesaw
	  ○ Modeled this for other teachers by sharing her screen during a Google Meet
	  ○ Answered four questions other teachers asked
	  ▪ Modeled examples of the answers to these questions by showing her own class' Seesaw page

Anne	• Shared ways she was using Google Forms to gather formative data from students • Shared the feature in Google Forms that allows feedback to the student based on their responses ○ Answered three questions and modeled an example Google Form by sharing her screen through Google Meet

Laurie	• Learned about the feature of giving feedback in Google Forms from a teammate who attended Anne's collaborative professional development opportunity
	  ○ Created Google Forms to use as exit slips for students' weekly reading reflection
	  ○ Used the feedback feature based on the students' responses

Mary	• Shared how to use Scope, which uses Scholastic articles and Peardeck to generate interactive learning opportunities for students
	• Modeled how to do this by sharing her screen during a collaborative professional development opportunity
	  ○ Met with her grade level team to ensure they all knew how to use it
	  ○ Planned as a team how they would use it with all of their students based on the topics they teach

Social Persuasion

Social persuasion is the third source of efficacy (Bandura, 1986), which is demonstrated when a group is encouraged by a credible and trustworthy source to

innovate and overcome challenges (Donohoo, 2017). The more authentic the source of information, the more likely the efficacy expectation is to change (Bandura, 1977). Social persuasion depends on establishing norms of openness, collaboration, and cooperation (Donohoo, 2017). The more cohesive the faculty, the more likely they will be persuaded by sound arguments (Donohoo, 2017). The essential question used in the modified CTE Practice Profile to elicit examples of social persuasion was: How do teachers receive and give feedback and encouragement regarding implementing an instructional strategy or practice?

Several participants exhibited social persuasion, stating "this will make your life so much easier," "if you have not tried this yet, you need to," and "the quizzes are trash, but the articles are great" as they projected their screens during Google Meets to share their learning with others. Through this collaborative decision making of what worked well and what did not work well, teachers collectively shared their practices during the virtual and hybrid instructional models.

As participants shared their transparent thinking regarding instructional strategies and tools, their colleagues posed questions to help deepen their understanding. Through this collaborative, dialogic learning, teachers exhibited trust with each other such as when Mary shared authentic examples of how she used SeeSaw with her students by displaying it on the Google Meet for all session participants to see. This trust was evident at RES long before the global COVID-19 pandemic; the pandemic allowed it to grow even more.

Affect State

Affect state is the fourth and final source of efficacy, including feelings of excitement or anxiety associated with an individual's or group's perceptions about their

capability or incompetence (Bandura, 1986). Goddard et al. (2004) noted affect state might determine how organizations interpret and react to the challenges they face. The essential question used from the modified CTE Practice Profile to elicit examples of affect state while observing the collaborative professional development opportunities was: How do teachers implement or use new instructional strategies?

When sharing during the collaborative professional development opportunities, the purposefully sampled participants expressed their feelings regarding various instructional strategies and tools they used with their students. Anne shared, "today at school was REALLY hard." These feelings were especially evident when using emotion coding as part of the first cycle coding process. Table 4.9 displays a summary of some of the emotion codes participants used when sharing during the collaborative professional development opportunities.

Table 4.9 *Affect State Data From Modified CTE Practice Profile*

Teacher	Emotion code
Stephanie	really awesome, exciting
Tina	frustrating, pleased, happy, getting better
Christina	a lot better, so smooth, helped so much, working well
Anne	tough, difficult, better
Laurie	went smoothly, happy, getting better, improving, love
Mary	no problems, great, no issues- yay!

Participants were transparent as they shared their thoughts during collaborative professional development opportunities. Overall, their emotions were positive.

Participants who expressed somewhat negative emotions in the beginning, changed to positive emotions by the end of data collection. They expressed through the collaborative conversations that they had become more familiar with the instructional technology tools, and so had the students.

Social Networks

Bandura (1997) used social cognitive theory to define collective efficacy as "a group's shared belief in its conjoint capabilities to organize and execute the course of action required to produce given levels of attainments" (p. 477). Teachers' perceptions of both self and organization influence their actions (Bandura, 1993, 1997). Through this interactive process, beliefs emerge that influence participants' well-being and their perception of colleagues' capability. Social networks can be critical to forming collective efficacy through the four sources of efficacy outlined above (Bandura, 1993, 1997). Teachers may have successes in their classrooms, but when they are directly aware of their colleagues' success, their belief in the faculty's collective capabilities increases (Donohoo, 2017).

Vygotsky's sociocultural theory suggests interpersonal, cultural-historical, and individual influences as essential components of human development (Tudge & Scrimsher, 2003). Language, logic, reasoning, and reflective thinking supported strategies teachers used in their classrooms (Raphael et al., 2014), such as teachers becoming facilitators of their learning through directing dialogue, confirming contributions, and motivating students. Anne shared, "it was helpful to hear other's thoughts." Vygotsky (Harré, 1983) suggested these strategies be implemented in a social context and consider an individual's strengths, language, and prior experiences so they are engaged in

activities that involve problem-solving and real-life tasks teachers experienced in the intentionally designed collaborative professional development opportunities.

The collaborative professional development opportunities allowed teachers a space to collaborate, understand their colleagues' knowledge and skills, and exchange resources, and provided an opportunity to see their colleagues as capable of bringing about change to students and instruction (Moolenaar et al., 2012). Mary shared, "engagement was something I have been struggling with in a virtual environment and being in a group to address this was very helpful." Table 4.10 displays a summary of the social networks' characteristics and data collected through the modified CTE Practice Profile.

Table 4.10 *Social Network Characteristics and Examples From Modified CTE Practice Profile*

Characteristic	Examples
Teachers have a space to collaborate.	• Google Meet (videoconferencing platform). • Physical room within the school. • Four opportunities to engage in collaborative professional development after school.
Teachers understand their colleagues' knowledge and skills.	• All participants posed questions to other colleagues regarding instructional technology tools used with students. • Other teachers posed questions to participants regarding instructional technology tools they were using with their students. • All participants shared their screens during Google Meets with other colleagues to help create an understanding and knowledge focused on instructional technology tools they found most beneficial for instruction. • All participants viewed other colleagues who shared their screens during Google Meets to help create an understanding and knowledge focused on instructional technology tools they found most beneficial for instruction.
Teachers exchange resources.	• All participants exchanged resources with other colleagues throughout the four collaborative professional development opportunities.

Characteristic	Examples
Teachers are provided an opportunity to see their colleagues as capable of bringing about change to students and instruction.	• Collaborative professional development opportunities grouped 7-14 teachers within each session/topic based on their responses to the Google Form reflection survey. • These opportunities provided teachers time and space to share their successes and challenges based on a topic. • In each session, teachers shared 7-10 examples of work they were doing with students during this time of great change and uncertainty.

Drawing upon social cognitive theory and sociocultural theory, the collaborative professional development opportunities offered an understanding of teachers' advice-seeking patterns and how teacher collaboration influences instructional practice (Moolenaar et al., 2012). Understanding teachers' advice-seeking patterns offered insight into how teacher collaboration influences instructional practice and reform implementation (Moolenaar et al., 2012). Teachers requesting advice on instruction were more likely to evolve their practice (Parise & Spillane, 2010). The collaborative professional development opportunities created a space for social networks to emerge, which played a critical role in the dispersion and implementation of educational reform as teachers were required to abruptly change from a face-to-face instructional model to a hybrid or virtual instructional model (Frank et al., 2004; Penuel et al., 2012). Laurie shared, "it was helpful to have a designated time to work on things that I was interested in using in my classroom." Participants also exhibited three characteristics that make the inquiry as stance possible: critical self-awareness, reflection, and openness to new ideas through professional development (Cochran-Smith & Lytle, 2001).

Teacher Voice

Professional learning is useful when grounded in issues related to student learning identified by participants, and when the application of new learning is supported onsite (Donohoo, 2017). In this study, I placed the focus on the teachers' everyday work and student learning outcomes. Through collaborative professional development opportunities, participants posed questions, evaluated their impact, reflected on their collective work, and determined the next steps (Donohoo, 2017). Teachers' influence increased, as did their power to make decisions on important issues related to school improvement and professional learning (Donohoo, 2017). Teachers' voices helped shape professional learning, reduce resentment, and decrease anxiety because teachers had more control over RES's changes. The structure of the collaborative professional development opportunities designed by the CIG empowered teachers.

For example, their responses from the weekly Google Form reflection surveys determined the affinity groups' topics, whether the responses were successes or challenges. Participants controlled the professional development focus, and the CIG sought their opinions weekly. Laurie shared, "it was beneficial to hear ideas from other teachers navigating the same waters as me." The design of these collaborative professional development opportunities was structured so teachers could share their input to develop solution-oriented, collaborative conversations dedicated to enacting positive change when teachers were required to dramatically and quickly change their practice.

Collaborative Teacher Inquiry

Collaborative inquiry provides a systemic approach for educators to identify professional dilemmas and determine resolutions through shared inquiry, problem

solving, and reflection (Donohoo, 2017). The most effective collaborative inquiry teacher teams keep in mind that their end goal is to increase learning and achieve more success for all students. Donohoo (2017) presented a four-stage model for collaborative teacher inquiry (see Figure 4.1).

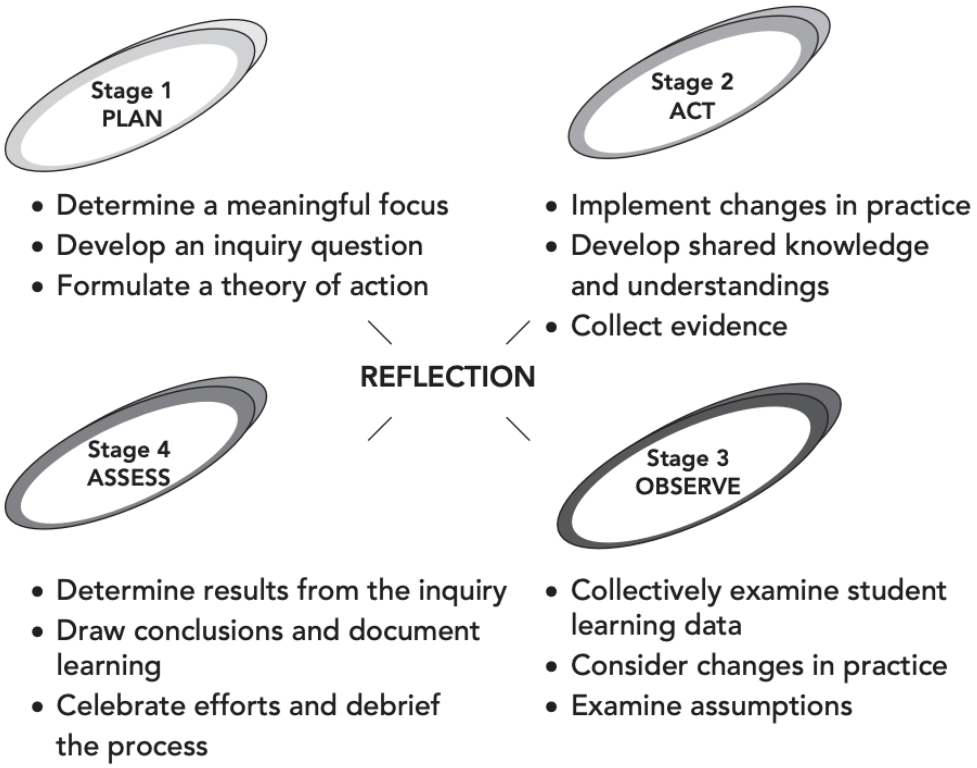

Figure 4.1 *Collaborative Teacher Inquiry Four-Stage Model.* Reprinted from *Collective Efficacy: How Educators' Beliefs Impact Student Learning* (p. 61), by J. Donohoo, 2017, Corwin Press.

Through my research design, teachers engaged in each stage of the collaborative teacher inquiry four-stage model. All of the teachers had a goal to increase learning and achieve more success for all students (Donohoo, 2017). Through their collaborative professional development opportunities, participants were able to uncover relationships

between teaching and learning as groups of teachers examined what they thought would work against the realities of what was happening given their existing culture, specific context, and unique population (Donohoo, 2017).

This first stage, planning, was observed during the first 2 weeks of school, as participants navigated extreme technological problems that directly impacted their instruction with students. Participants were learning how to use the instructional technology tools and investigating on their own by watching videos and searching the internet. Anne indicated, “all I am doing is working around the clock and it is hard.”

Once teachers could solve some of the technology logistics and found a few instructional technology tools to dive deeper into, they were ready to move into Stage 2: Act- Teachers worked together to develop new knowledge and competencies and implement practice changes (Donohoo, 2017). Data from the modified CTE Practice Profile and the Google Form reflective surveys indicated a shift from Week 3 to Week 5 as teachers were less focused on challenges they were having and more focused on the successes they had within their classrooms. Christina shared, “students are more used to the routine, and understand how their devices work a bit better. They have better coping strategies for logistical problems.”

For example, Laurie and Anne attended the logistics collaborative professional development session for their first session. Laurie expressed concerns regarding Google Meet and Anne expressed concerns about the external document camera. Once those concerns were rectified, they focused on implementing changes in their practice, identifying sources of information to help them, and collecting evidence about how their actions impact their students. Laurie implemented Google Form exit slips to assess

students' weekly independent reading and engage in personal reflection during the next 3 weeks. Anne created Peardeck lessons to engage students in the learning process during virtual instruction.

During Stage 3: Observe, teachers make meaning of data by identifying patterns and themes and formulating conclusions (Donohoo, 2017). Participants narrowed the use of instructional technology tools to the ones they knew would work well and provided them with the information they needed from students. A plethora of resources were available to teachers during this time. Through collaborative professional development opportunities, participants' everyday work became a central focus of their learning. These encounters fostered a shared responsibility for improving student outcomes and interdependence which results from the need to draw on each other's experiences and expertise to develop more everyday understandings of student learning needs and instructional practices (Donohoo, 2017).

For example, Tina shared how, at first, she used Seesaw to give students feedback on their work. It became difficult to manage and was overwhelming for her. However, after learning about Jamboard from another teacher, she began to use it. She watched YouTube videos and came to her own conclusions about how it could be used with her students. She found Jamboard provided real-time data based on the work students were doing solving math equations. She watched the students complete the equation on the Jamboard and gave them immediate feedback based on their responses.

During the fourth and final stage: Assess, participants debriefed the process by considering how their work was reflective of the characteristics of effective professional learning (Donohoo, 2017). Changes in beliefs occur as teachers reconciled discrepancies

between initial thinking and new ideas that emerged through the examination of evidence and reflection (Donohoo & Velasco, 2016).

As teachers participated in the artifact sharing, they examined the evidence and reflected on their growth over the previous 8 weeks. The data exhibited how the teachers collaborated and developed solutions to address their problems of practice (Tschannen-Moran & Barr, 2004). Their everyday work was at the central focus of their learning (Donohoo, 2017). For example, Stephanie shared how she combined two different instructional technology tools she had learned about during the collaborative professional development to have her students create a digital book to share with families and students. Mary shared how she collaborated with her grade level team to ensure they were all using a resource she had learned about so the grade level could collect and analyze data. The instructional technology tool would provide essential data on students' reading needs and guide teachers' next steps in designing instruction.

Extensive Memoing

I observed collaborative decision making during the collaborative professional development opportunities using extensive memoing. Dewitt (2016) suggested decision-making processes should be transparent and involve teachers in authentic, relevant ways. Collaborative decision making is when leaders provide opportunities for shared leadership by affording others the power to make decisions that can benefit an organization (Donohoo, 2017). Collaborative decision making creates empowerment, which enhances efficacy, increases engagement, and creates a desire to be involved (Donohoo, 2017). By using extensive memoing, I collected data regarding teachers foci

during collaborative decision making designed around common challenges and identified successes and the most common.

The school leaders at RES actively invested in participants' opinions. The CIG used participants' responses from the weekly Google Form reflection surveys to design collaborative professional development opportunities, which were inclusive and transparent. Participants were grouped based on their responses, which indicated success or challenge in various areas.

Several themes emerged from my extensive memoing using first- and second-cycle coding. Table 4.11 displays a summary of the overarching themes and subcategories that emerged under each theme, as indicated by the purposefully sampled participants' responses to the Google Form reflection survey and participation in the collaborative professional development opportunities.

Table 4.11 *Google Form Reflection Themes and Subcategories*

Themes	Subcategories identified through pattern coding
Logistics	• Logging on • Google Meet problems • Lady Bug problems • Microphone • Parent training • All things Google
Engagement	• Creating a classroom experience virtually • Keeping students engaged from a distance • Communicating with parents • Incorporating breaks and varying tasks throughout the day • Creating authentic learning experiences • Helping students feel connected • Creating more student-to-student interaction, partner work

Themes	Subcategories identified through pattern coding
Planning	• Classroom schedules • Creating a classroom experience virtually • Using various tools to create fluid schedule • Staying on target • Not spending all weekend planning! • Building student independence • Managing time • Getting into a rhythm • Rethinking how to teach in these circumstances • Using what we know works well • Tools to keep during face-to-face • Creating and managing small groups in a virtual environment

Platforms and tools	• Management of assignments
	• Tips & tricks
	• Types of activities
	  ○ Assignments
	  ○ Assessments
	• SeeSaw, Google Meet, Peardeck, Google Classroom

Grading and assessing	• Success criteria • Formative feedback along the way • Peer to peer feedback • Variety of ways to assess in the virtual environment • Tools to keep during face-to-face • Grouping and differentiating for varying needs of students
Accountability	• Keeping students on task • Supervising students during virtual work • Expectations and procedures • Using tools independently • Setting up a successful virtual environment • Managing an off camera • Getting students to come back to the meet

Table 4.12 displays a summary of the overall themes that emerged as participants engaged in collaborative professional development opportunities based on their responses to the Google Form reflective survey.

Table 4.12 *Collaborative Professional Development Opportunity Themes*

Name	Session 1	Session 2	Session 3	Session 4
Stephanie	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Seesaw	Platforms and tools	Planning	Seesaw
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	writing pre-assessment creating activity in Seesaw accountability in Seesaw	record reading in Raz Kids build independence create assignments in SeeSaw record comments in Seesaw	small groups Reading A-Z use of assistant Google Meet	book creation student independence Seesaw
Tina	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Seesaw	Planning	Planning	Jamboard
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	did not speak	did not speak	Seesaw assignments struggle virtual days not understanding virtual small groups Jamboard for math	real-time student feedback math equations Jamboard

Christina	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Seesaw	Engagement	Engagement	Problem Solving
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	adding activity in Seesaw using google slides in SeeSaw students learning logistics of SeeSaw approving comments in Seesaw Record reading submitting assignment in Seesaw	brain breaks Go Noodle pet sharing number talks with Jamboard	seesaw on face-to-face days student independence parent communication student growth	hands-on learning science instruction
Anne	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Logistics	Platforms and tools	Grading and assessing	Peardeck
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	external document camera managing Google Meet camera & document camera	did not speak	quizzes team sharing formative assessments student feedback student independence	student engagement task cards teaching dialogue Peardeck

Laurie	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Logistics	Planning	Engagement	Google Forms
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	support parents parents navigating platforms	opportunities for students to talk mute/ unmute classroom community	did not speak	student reflection student feedback Google Forms
Mary	**Session 1 Theme (Grouped)**	**Session 2 Theme (Grouped)**	**Session 3 Theme (Grouped)**	**Session 4 Theme (Choice)**
	Planning and engagement	Planning	Engagement	Peardeck
	Session 1 Descriptive Codes	**Session 2 Descriptive Codes**	**Session 3 Descriptive Codes**	**Session 4 Descriptive Codes**
	digital notebooking Google Slides Jamboard Clever Newsela Brainpop	schedule teaching parents platforms & tools pacing & timing Jamboard	use of tools face-to-face breakout rooms increasing student talk too many resources inquiry process team planning independent learners trust continue to use devices	assessing reading use of multiple instructional tech tools Google Slides Peardeck already created resource

The themes that emerged through the first and second cycle coding methods reflect participants' engagement during the collaborative professional development opportunities. As indicated by the data, some participants engaged in collaborative professional development opportunities more than others. Tina, Anne, and Laurie did not speak in at least one session. Mary, Christina, and Stephanie engaged in the collaborative professional development opportunities multiple times each session. Over time, all participants engaged by asking other participants questions and sharing examples of their classrooms' experiences.

Thematic Summary of Findings

What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?

When teachers reflected on their practice as they were required to abruptly change from a face-to-face model to a hybrid or virtual instructional model, they focused on things important to them at that moment in time, as indicated by data from the Google Form reflection survey, Atlas: Looking at Data protocol used by the CIG, modified CTE Practice Profile, and extensive memoing. Table 4.12 displays a summary of the data collection method and overall themes that emerged through the first and second cycle coding methods.

Table 4.12 *Thematic Summary of Pattern Codes*

Google Form reflection survey (weekly by participants)	Atlas: Looking at Data Protocol (CIG)	Modified CTE Practice Profile (collaborative professional development opportunities)	Extensive memoing notes (all)
logistics (challenge)	assessment	frustration with logistics	frustration with logistics
planning (challenge)	accountability	overwhelmed with planning	overwhelmed with planning
engagement (challenge until face-to-face model change)	instructional activities	positive talk	positive talk
platforms and tools	instructional technology tools	intentional questioning	intentional questioning
grading and assessing	student independence	sharing of resources	sharing of resources
accountability	student feedback	instructional strategies	instructional strategies
	student engagement (challenge until face-to-face model change)	instructional technology tools	instructional technology tools
	parent communication and support	problem solving	problem solving
	logistics (challenge)	positive feedback between teachers	positive feedback between teachers
	planning (challenge)	encouragement	encouragement
		student engagement	student engagement
		student feedback	student feedback
		parent communication	parent communication
		student assessment	student assessment
		student accountability	student accountability

The themes that emerged from the different data collection methods were similar. For example, planning and engagement were exhibited in all four data collection methods. More themes emerged from the modified CTE Practice Profile and extensive memoing notes When teachers abruptly changed from a face-to-face instructional model to a virtual instructional model, they focused on technology logistical challenges that impeded their instruction with students. These logistical technology challenges impeded the flow of their instruction during the first 2 weeks of school. As logistical technology challenges lessened, teachers focused on instructional technology tools and instructional strategies that mimicked traditional face-to-face instruction with which they were most familiar. As students returned to a more face-to-face model 4 days a week, teachers focused on maintaining instructional technology tools that provided instructional strategies that related most to the instruction students received in the face-to-face learning environment.

Teachers focused on the large amounts of planning throughout all instructional models, as they implemented new learning regarding instructional technology strategies and tools. The teachers voiced it took at least twice as long to plan to implement these strategies and tools in face-to-face, hybrid, and virtual environments. Their extreme feelings of being overwhelmed and tired radiated through the data collected.

During the collaborative professional development opportunities, participants engaged in collaborative conversations focused on topics of interest to them, as indicated by the Google Form reflection survey. Table 4.13 displays a summary of the successes and challenges participants focused on during collaborative decision-making opportunities that emerged through first and second cycle coding of the modified CTE

practice profile and extensive memoing notes during collaborative professional development opportunities.

Table 4.13 *Successes and Challenges Most Common During Collaborative Decision Making*

Successes	Challenges
positive talk (teachers)	frustration with logistics (teachers)
intentional questioning (teachers)	overwhelmed with planning (teachers)
sharing of resources (teachers)	student engagement (virtual instruction)
instructional strategies	
instructional technology tools	
problem solving (teachers)	
positive feedback between teachers	
encouragement (teachers)	
student engagement (face-to-face)	
student feedback	
parent communication	
student assessment	
student accountability	

The pattern codes displayed in Table 4.13 indicate successes outweighed the challenges most common during collaborative decision making. The challenges teachers experienced occurred throughout all 8 weeks of data collection. Even though technology logistics improved significantly, technology continued to impact instruction and create frustration for teachers. Anne shared in Week 8, “I still struggle with delays and freezing on my computer, which is my biggest frustration now.”

Planning for multiple instructional models also weighed heavily on the teachers. Anne shared, “I still spent most of my weekend and every other second last week prepping and planning.” Teachers experienced a shortened planning time this school year due to COVID-19 protocols and the need for related arts teachers to travel to the classrooms. Teachers faced planning times outside of their classrooms. They simply

needed time to learn the instructional technology tools and determine how tools could support instruction. Laurie shared, “I need help with all of it, so not being able to do anything well, but just little bits of knowledge about lots of things is frustrating.”

Student engagement seemed to improve once students returned face-to-face. However, teachers continued to share concerns regarding student engagement on virtual days. During Week 7, Anne indicated, “I feel like my kids are engaged at school. Virtual Wednesdays are hard though.”

The successes were exciting to watch as I collected data. Even during a pandemic, teachers exhibited positive talk as they asked questions of their colleagues, shared resources, and solved their challenges. Their new learning of instructional technology tools and strategies increased over time, which led to an increased focus on student assessment, student feedback, and student accountability. The positive feedback among teachers fostered an atmosphere of trust and willingness to be vulnerable to try new things. Christina shared, “I enjoyed getting to collaborate with other teachers.” Laurie said she found it, “beneficial to hear ideas from other teachers navigating the same waters as me.”

How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?

CTE is a belief that together teachers can positively impact student learning. When efficacy is high, teachers show more remarkable persistence and are more likely to try new teaching approaches (Anderson, 2017). The most significant factor impacting student achievement (Hattie, 2016), CTE is the collective self-perception that teachers make an educational difference to their students (Donohoo, 2017). Four sources shaping

collective efficacy beliefs include mastery experiences, vicarious experiences, social persuasion, and affective states (Bandura, 1986; Goddard et al., 2004).

Collective efficacy is related to the causal attributions of student outcomes. Groups act on their beliefs about what they can accomplish and their beliefs about their performance's likely outcomes (Donohoo, 2017). Bandura (1997) noted "causal attributions affect motivation, performance, and affective reactions mainly through beliefs of self-efficacy" (p. 128). Goddard et al. (2002) noted "the major influences on CTE are the attributional analysis and interpretation of the four sources of efficacy" (p. 486). High CTE is exhibited through persistence and resiliency in difficult situations (Tschannen- Moran & Barr, 2004) and being more accepting of change and more likely to try new teaching approaches (Ross & Bruce, 2007).

The data collected for this study indicated the collaborative professional development opportunities contributed to participants' cohesion and supported them. These opportunities positively impacted teacher beliefs about their abilities to help students learn. Laurie shared she struggled with engagement in a virtual environment and being in a group to address this was very helpful. Anne indicated she liked hearing and seeing ideas from others. She said, "Learning new things is always beneficial and it was helpful to hear other's thoughts." I provided evidence the inquiry process helped bring about changes in attributions specific to the teacher-implemented instructional action. Changes occurred due to participants' ability to focus on the problem of practice long enough to develop instructional solutions (Donohoo, 2017). They saw these causal connections (Donohoo, 2017) fostered the acquisition of crucial teaching skills and knowledge; thus, learning positively impacted teachers, identifying students' needs,

collaborating with other professionals, and designing instruction for multiple learning environments. Therefore, teachers exhibited CTE when they dramatically and quickly change their practice through the support of the collaborative professional learning opportunities designed around the collaborative teacher inquiry four-stage model (Donohoo, 2017).

Based on the data collected from the Google Form reflection survey and the observations using the modified CTE Practice Profile, the administrative support team (i.e., members of the CIG) learned ways to support teachers in a time of significant change. The data indicated teachers valued time and space to share their successes and challenges. In this time and space, they learned from each other and implemented their new learning in their classrooms. Some specific examples include:

- They needed to learn about instructional technology tools before processing the district professional development.
- They needed to see things in action.
- They learned from each other what to do and what not to do.
- They did not need a video or module, they needed real people and real experiences.
- They needed to investigate it on their own.
- They needed to see how instructional technology tools could save them time, and it was not one more thing in the face-to-face environment.
- They implemented the *Bold School Framework for Strategic Blended Learning* with the data team process.

Through teacher agency and teacher's voice exhibited in the Google Form reflection survey and the collaborative professional development opportunities, the administrative support team learned this time period placed great stress and anxiety on teachers. Their focus began with processing what a virtual learning environment looked like, and then it turned to focusing on the most beneficial instructional technology tools used within a virtual learning environment. Finally, teachers focused on using their new learning to learn about their students and replicated instruction as they would traditionally teach in a face-to-face environment as best they could. By the time the teachers embraced this virtual learning environment, they had transitioned to face-to-face instruction 4 days a week. This transition created a loss in a desire to extend their new learning beyond what they previously learned during collaborative professional development opportunities. Instead, their focus shifted to returning to their traditional instructional strategies and tools previously used in face-to-face instruction. Changes made by the administrative team included the following:

- creation and design of the CIG,
- collaborative professional development design, and
- continuation of district implemented professional development.

The administrative team's collaboration with the other CIG members proved beneficial as data-driven decisions focused on teachers' reflections during a time of significant change. Through these data-driven decisions, collaborative professional development intentionally designed by the CIG created new learning opportunities, growth in CTE, and empowerment among teachers as they engaged in collaborative decision making. Through this journey, the administrative team learned more

strategically designed professional development needs to occur to develop new learning focused on *The Bold School Framework for Strategic Blended Learning* (Kieschnick, 2017) so teachers continue to build on the learning that occurred during this research study.

Interpretation of Initial Findings

Analysis of participant responses through the Google Form reflective survey, the Atlas: Looking at Data protocol used by the CIG, the modified CTE Practice Profile, and extensive memoing notes provided critical insight to answer the research questions proposed for this practitioner inquiry research study. Inquiry as stance as the overarching theoretical framework guided this research study as participants identified critical self-awareness, reflection, and openness to new ideas through professional development (Cochran-Smith & Lytle, 2001). All participants in the inquiry community at RES were regarded as knowers, learners, and researchers (Cochran-Smith & Lytle, 2009) as they changed their instructional model in the midst of the COVID-19 pandemic. By providing teachers with space and opportunity to engage in the characteristics of inquiry as stance, practitioner inquiry was exemplified.

The analysis revealed themes that emerged based on the successes and challenges teachers experienced as they abruptly and necessarily changed their practice during the COVID-19 pandemic. Some successes began as challenges. After teachers engaged in collaborative learning opportunities and collaborative decision making, many of the challenges became successes. As teachers had the time and space to ask questions and learn from each other, they determined resolutions through shared inquiry, problem solving, and reflection (Donohoo, 2017). Some examples of this were the teachers

learning how to use instructional technology tools and strategies within the virtual environment. Inquiry as stance interlaces theories of how to change with what must change, which strengthens practitioners as they move alongside each other in a collaborative walk (Leavitt, 2010).

The challenges that remained constant were technology logistics and planning instruction. Teachers indicated extreme frustration regarding technology. Teachers at RES never experienced one-to-one technology prior to this pandemic. These challenges impacted instruction negatively and were outside of participants' control. Support from colleagues and troubleshooting techniques minimized these challenges over the course of the study. Teachers indicated they were overwhelmed with planning instruction for the virtual and face-to-face environments. Planning for the virtual environment was taking teachers twice as long.

Through collaborative professional development opportunities, participants exhibited the characteristics of high CTE. Changes in beliefs occurred as participants' attributions of improved student performance shifted from external causes to teaching. Technology logistics impeded instruction so much during the first 2 weeks that most participants were unable to teach a full day of instruction. As technology logistics improved, participants shifted their focus to teaching. This shift in focus led administrators to design next steps to support the professional development of teachers and their future learning needs. Collaborative professional development opportunities empowered teachers to make instructional decisions together and positively impacted participants' beliefs about their abilities to help students learn (Donohoo, 2017).

The data indicated teachers valued time and space to share their successes and challenges. In this time and space, they learned from each other and implemented their new learning in their classrooms. Some specific examples included:

- They needed to learn about instructional technology tools before processing the district professional development.
- They needed to see things in action.
- They learned from each other what to do and what not to do.
- They did not need a video or module, they needed real people and real experiences.
- They needed to investigate it on their own.
- They needed to see how instructional technology tools could save them time, and it was not one more thing in the face-to-face environment.
- They implemented the *Bold School Framework for Strategic Blended Learning* with the data team process.

Through teacher agency and teacher's voice exhibited in the Google Form reflection survey and the collaborative professional development opportunities, the administrative support team learned this time period placed great stress and anxiety on teachers. Their focus began with processing what a virtual learning environment looked like, and then it turned to focusing on the most beneficial instructional technology tools used within a virtual learning environment. By transitioning their focus over time, the teachers were grounded in inquiry as stance as they investigated problems in the context of practice by theorizing, studying, and acting on those problems in the best interests of learning (Cochran-Smith & Lytle, 2009).

Finally, teachers focused on using their new learning to learn about their students and replicated instruction as they would traditionally teach in a face-to-face environment as best they could. By the time the teachers embraced this virtual learning environment, they had transitioned to face-to-face instruction 4 days a week. This transition created a loss in a desire to extend their new learning beyond what they previously learned during collaborative professional development opportunities. Instead, their focus shifted to returning to their traditional instructional strategies and tools previously used in face-to-face instruction.

Summary

This chapter presented an overview of the data, data analysis, interpretation of the data analysis, and essential findings and conclusions. Qualitative data analysis revealed themes that emerged from the Google Form reflection survey, modified CTE Practice Profile, Atlas: Looking at Data Protocol, and extensive memoing notes. I triangulated the themes that emerged across multiple data collection methods. The majority of the themes focused on aspects of the teacher's control during a period of abrupt and necessary transition as teachers were dramatically required to change their practice. In Chapter 5, I discuss the findings, implications of the research, reflections on methodology, and an implementation plan.

CHAPTER 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Carr and Kemmis (1986) made it clear that action research aims to improve social practice and those involved in the practice itself. Based on the key findings discussed in Chapter 4, this chapter explores my reflection on practitioner inquiry; and the successes, and challenges experienced by teachers during the COVID-19 pandemic. I also describe the implementation plan for the changes I will enact in continuing my practice.

The purpose of this practitioner inquiry research study was to identify the most common successes and challenges as teachers were required to abruptly change their instruction during the COVID-19 pandemic. Given this problem of practice, I sought to investigate the successes and challenges teachers faced as they engaged in professional development opportunities and collaborative decision making, and the impact on collective teacher efficacy (CTE) as teachers abruptly changed from face-to-face to hybrid and virtual instruction. Putting practice at the center and drawing on the collective intellectual capacity of practitioners collaborating with others are at the heart of the grounded theory of educational transformation that exemplifies inquiry as stance (Cochran-Smith & Lytle, 2009). Specifically, as a participant–researcher, I sought to use different qualitative data types to investigate collaborative decision-making conversations, CTE, and the common successes and challenges identified by teachers.

The following research questions guided this study:

1. What successes and challenges do elementary school teachers identify when required to change their instructional model in the midst of a global pandemic?
2. How does collaborative decision making among these teachers impact how they demonstrate collective teacher efficacy?

I provided teachers a Google Form reflective survey each week to give them a space to voice their opinions, celebrations, or concerns, and give feedback regarding their teaching experiences during the COVID-19 pandemic. Using this survey, a collaborative inquiry group (CIG) composed of RES administrators, a local university liaison, and teacher leaders at RES grouped teachers based on their reflective responses and designed intentional time for teachers to share their successes and challenges based on various topics that arose from their surveys.

During the 8 weeks of data collection, teachers reflected on their successes and challenges seven times through the Google Form reflection survey, met with affinity groups four times during collaborative professional development opportunities, and completed a final reflection form designed by the CIG. I observed the collaborative professional development opportunities using a modified CTE Practice Profile to evaluate what happens to CTE when teachers were required to dramatically and quickly change their practice. I coded data from the Google Form reflection surveys using first and second cycle coding methods to elicit emerging themes. Extensive memoing was used throughout data collection and coded using first and second cycle coding methods as well.

This collaborative professional development design provided administrators with an opportunity to purposefully observe and examine the characteristics of the successes and challenges teachers experienced through an inquiry as stance theoretical framework. Inquiry as stance as a theoretical framework in this study conjoined the theories of social cognitive theory (Bandura, 1997) and sociocultural theory (Vygotsky, 1978) as an organic and democratic theory of action that positions practitioners' knowledge, practices, and interactions with students and other stakeholders at the center of educational transformation (Cochran-Smith & Lytle, 2009). Professional development as inquiry allowed teachers to co-labor around challenges and fundamental uncertainties of their daily practice (Cochran-Smith & Lytle, 2009). These collaborative professional development opportunities also fostered collaborative decision making—given the abrupt change in their profession and teaching environment. Collaborative conversations allowed teachers time to share their successes and challenges, which led to the sharing of instructional strategies and instructional technology tools to support students' needs. Teachers discussed what worked well, what did not work, what to stay away from, what to try, and when to try. Their conversations were solution-oriented to succeed in this new teaching and learning environment.

As teachers began this journey, navigating technology logistics and learning instructional technology tools and platforms were their biggest challenges. Technology logistics, in the form of freezing screens, lost connections, sound issues, and video issues impeded the flow and the overall delivery of instruction. Due to never having had one-to-one devices, teachers had no prior knowledge to troubleshoot these challenges quickly.

Teachers also had very limited prior knowledge of instructional technology tools to engage students in a virtual learning environment.

Once teachers became more confident with the instructional technology tools and worked through the logistical barriers, they were then able to focus on their work's instructional aspect. Through collaborative, dialogic learning opportunities, teachers shared the best instructional technology tools to use in these various learning environments. The focus of collaborative decision-making opportunities became instructional technology tools that would provide opportunities similar to those found in the face-to-face learning environment. By mimicking familiar instructional strategies, they could make sense of their new learning and apply it to the virtual learning environment. For example, teachers wanted to do small group instruction with their students in the virtual environment. Until Week 3 of data collection, the teachers did not have access to technology designed for this option. Then Google released Breakout Rooms, which allowed teachers to conduct small group instruction in a virtual environment.

Once teachers tackled the challenge of learning instructional technology tools, they moved on to the best ways to assess students' learning and use these assessments to guide their next steps. At this phase, teachers were able to employ more of their traditional strategies and educational expertise to support student. However, they had to make it through the other challenges of troubleshooting logistics and learning the instructional technology tools before reaching the point where they could employ some of their prior practices.

Based on their reflections, teachers endured enormous challenges implementing instruction in a virtual environment. However, their perseverance and drive to overcome and help their students succeed were awe-inspiring. Their CTE shined, and they were determined to make this new learning environment work in their students' best interest. Each week, they walked away with tips and tricks to try, embraced new ways of doing things, and identified colleagues who could answer questions in a time of need. The teachers at RES were unified to overcome and succeed amid the COVID-19 pandemic.

Overall, navigating technology logistics and learning instructional technology tools to engage students in instruction grew the most over time. The teachers' qualitative responses indicated they became more comfortable with the use of instructional technology tools in the virtual learning environment. They were able to troubleshoot challenges with technological logistics better, and students could navigate the platforms more successfully over time. Bandura (1977) noted "the strength of people's convictions in their own effectiveness is likely to affect whether they will even try to cope with given situations" (p. 193).

In this chapter, I review the implications, and implementation plan from this research study. My practitioner inquiry suggests through the intentional design of collaborative professional development opportunities that fostered collaborative decision making based on teachers' successes and challenges, teachers' exhibited qualities of high CTE, new knowledge was generated, and the quality of education was positively impacted. The results also suggest moving between the virtual, hybrid, and face-to-face learning environments took an enormous amount of planning for teachers and

overwhelmed them so much it was difficult for them to prepare for more robust and authentic future learning.

My implementation plan focuses on using the collaborative professional development design for this study to engage teachers in reflective, practitioner inquiry to learn from these experiences and design a more robust and authentic learning experience in the future. The successes and challenges indicated by teachers provided evidence to guide collaborative decision making to mobilize what works in face-to-face and virtual environments.

Implications

During the beginning of data collection, the school year had just begun. Teachers were teaching in a hybrid learning environment where students were in school for face-to-face instruction 2 days a week and at home for virtual instruction 3 days a week. Teachers experienced frequent technical and logistical challenges that impeded their instruction to the point most could not teach a full day of instruction. This frustrated the teachers, who lacked the CTE to make collective decisions based on evidence. However, teachers remained determined to solve their problems. Each day became a new day to try again. Collaboratively, these practitioners theorized, studied, and acted on problems in the best interest of learning through an inquiry stance (Cochran-Smith & Lytle, 2009).

Once most of the logistical challenges were resolved through platform updates and problem solving among teachers, teachers exhibited stronger CTE, indicating they were ready to make use of the skills they already had and find ways to tackle difficult challenges (Hattie, 2016). Their intentionality to try new instructional technology tools, collaborative decision-making conversations, and positive talk exhibited characteristics

of high CTE. The collaborative professional development opportunities provided teachers a time and space to focus on things that mattered to them and their work with students. Together, the teachers pooled their knowledge, skills, and resources, provided mutual support, formed alliances, and worked together to secure what they could not accomplish on their own (Bandura, 2002).

The collaborative professional development opportunities tied efficacy to the construct of agency and action (Bandura, 1982, 1998, 2001). Through this construct, teachers incited positive thinking to see limitations as challenges and weighed the power of uncontrollable circumstances against that which could be controlled (Bandura, 2001). The challenges teachers experienced turned into successes through collaborative decision making within the professional development experiences. Teachers discussed what worked well, what did not work well, and why. They reflected together, gave suggestions and feedback, and learned from each other based on intentional professional development designed around their needs. Through this inquiry process, teachers became knowledge generators and shifted the control of the teaching profession's knowledge base to teachers taking the risk to critically analyze teaching areas that directly impacted students (Babione, 2015).

After 6 weeks, all students returned to 4 days of face-to-face instruction. The data became repetitive and saturated. Teachers felt relief to instruct students virtually only a half day during the week. Most no longer had to do all of the extra planning to design for virtual instruction. Therefore, the desire to learn how to take these instructional technology tools to the next level and incorporate the ideas proposed in the district learning from *The Distance Learning Playbook: Teaching for Engagement and Impact in*

Any Setting (Fisher et al., 2021) and *Bold School: Old School Wisdom + New School Technologies = Blended Learning That Works* (Kieschnick, 2017) did not continue. Teachers wanted to focus on leveraging instruction during the 4 days they had students face-to-face.

At the beginning of the year, teachers could not teach because they were overwhelmed with logistical problems and were still learning what instructional technology tools to use. Through collaborative decision making and engaging in practitioner inquiry, teachers proved they could reflect on their classroom practices, target areas of improvement, and provide authentic solutions (Cochran-Smith & Lytle, 2009). They used their voices to reflect, think critically, and design their own professional development (Babione, 2015).

Practitioner inquiry increased teachers' exposure to new ideas and experiences as teachers collectively explored what it meant to teach in these various learning environments during the COVID-19 pandemic (Babione, 2015). Teachers exhibited collective agency as rooted in sociocultural theory (Raphael et al., 2014), through dialogue, confirming contributions, and motivating students. Through collaborative professional development opportunities, social networks fostered growth and opportunities to experience Bandura's (1993, 1997) four sources of efficacy: mastery experience, vicarious experience, social persuasion, and affect state.

Once teachers learned which instructional technology tools most benefited their classrooms, the instructional model changed, and they no longer saw a need to use most of those tools within the face-to-face instructional environment. The uncertainty of the pandemic and the shift between various learning environments overwhelmed teachers so

much that they could not move onto more transformative teaching with instructional technology, as the district resources encouraged. This lack of desire resulted from cognitive processes in which teachers constructed beliefs about their capacity to perform at a given level of competence (Bandura, 1977). The teachers took risks and used new techniques as they experimented and persisted during their instructional models' abrupt and necessary changes. However, some teachers did not see the continued benefit of implementing all, or even some, of their new learning into the face-to-face model due to the amount of time it took to plan for those lessons and because students were more engaged in the face-to-face environment anyway. The uncertainty of moving between instructional models has plagued teachers throughout the COVID-19 pandemic.

By engaging in collaborative inquiry, participants developed a sense of collective efficacy that helped educators reconnect with their original point of passion: ensuring student success (Langer & Colton, 2005). The collaborative professional development opportunities allowed the teachers to learn from each other based on things that were important to them. Through collaborative decision making and reflection, teachers moved their challenges to successes and increased their CTE. Practitioner inquiry provided a responsive approach that valued teachers' voices through the intentional use of teacher reflection and the design of collaborative professional development opportunities focused on information crucial to teachers.

Teachers came to a point where they could use the instructional technology tools they had learned about through collaborative professional development in the virtual instructional model and used those tools to replace the instructional activities and experiences from their face-to-face classrooms before the pandemic. It took the first 5

weeks of school to get teachers to this place where they felt somewhat comfortable teaching in a virtual environment because these tools helped mimic some of their previous instruction.

Teachers leveraged what they learned from crisis online learning to prepare themselves and their students for more robust and authentic future learning (Fisher et al., 2021). In the spring of 2020, students did not have one-to-one devices. Those experiences were utterly different from teachers' and students' experiences in Fall 2020. By the fall of 2020, RES provided one-to-one instruction and a hybrid model of instruction that varied from 2 days of face-to-face instruction to 4 days of face-to-face instruction, and the remaining days were virtual instruction.

Past research indicated teachers tailored learning more to what students could not do during crisis times, whereas often conventional school is about what teachers think students need, even if students can already do the tasks (Fisher et al., 2021). During the COVID-19 pandemic, teachers focused more on triaging learning and determining what students could and could not do (Fisher et al., 2021). Teachers must have opportunities to reflect on their experiences with using virtual spaces within their brick-and-mortar classrooms so blended learning opportunities can continue to engage students and make learning better.

By using learning from this crisis, teachers can prepare themselves and their students for more robust and authentic future learning in various ways. They focused on what students know and did not know, and only taught the things they did not know (Fisher et al., 2021). They must keep a balance and use a variety of instructional strategies. Harnessing the most exciting use of technology for the current situation and

building upon the learning from the collaborative professional development opportunities and the collaborative decisions is also essential. Communication with parents and providing support for the subject areas parents are least likely to help with is also needed (Fisher et al., 2021). Finally, it is essential to use responsive tools that provide timely feedback and engage students in as many social interaction opportunities as possible to learn together in these various learning environments (Fisher et al., 2021).

Future collaborative professional development opportunities should provide opportunities for teachers to discover ways to evaluate, discuss, and work together so they can learn more about their work with students and grow their comfort zones. Through this process, schools have provided emotional recovery and have promoted social togetherness (Fisher et al., 2021). By paying attention to teachers and their needs, and learning how to be responsive to students' needs, collective efficacy among teachers and school leaders can be developed (Fisher et al., 2021). These experiences can help us learn how to best work with all students to positively impact their success (Fisher et al., 2021). Reflection through these experiences can create stress and discomfort and deepen reflectivity and more sophisticated possibilities for action (Babione, 2015). Reflection can also have positive consequences and hold clues to understanding organizational change (Babion, 2015).

Reflection on Methodology

The ultimate goal of practitioner research is to affirm that educational practitioners are knowledge generators, decision makers, and deliberative collaborators (Cochran-Smith & Lytle, 2009). Teachers are professional practitioners with the collective intellectual capacity to help pose new adaptive challenges of practice and

create the knowledge and tools to address those problems by working together in inquiry communities (Cochran-Smith & Lytle, 2009). The learning that comes from the strenuous process by which participants come to understand their own experience, the influences of history and historical perspectives, and having a voice can have a determining effect on their futures (Cochran-Smith & Lytle, 2009). Grounded in inquiry as stance, the practitioners who do the work provide encouraging images of what happened when communities formed around investigations of practice. Their inquiry became central to re-imagining and re-inventing how and what adults and students teach and learn in educational institutions and beyond (Cochran-Smith & Lytle, 2009).

Limitations

Several factors in this study limited the extent to which the results can be generalized to the population outside of the study's context. First, the study took place during the COVID-19 pandemic in which the instructional models at RES changed multiple times throughout data collection. The instructional models' changes were outside of the control of teachers and continuously forced them to look closely at their instructional decisions (Babione, 2015). Positive and negative issues resulted in these abrupt instructional model changes due to how individual school boards, administrators, and staff adapted to the systematic changes. Practitioner inquiry provided venues for teachers to have more to say about their work's changing nature and more power and control over curricular and pedagogy changes that affected their classrooms (Babione, 2015). Social distancing measures proved to be a challenge when designing professional development opportunities. I implemented large spaces and virtual meeting platforms to provide participants with environments conducive to social distancing requirements.

These contextual factors cannot be duplicated in another setting, limiting generalization to a population outside of the study's context (Mertens, 2015).

Another limitation recognizes I conducted the study as part of the school-wide professional development plan. Participants were purposefully sampled based on their overall participation in the study's data collection. Since the data collection methods were part of the school's professional development plan, data would have been collected regardless of this research study; I did not inform individual participants that their data were used for the study. Participants were limited to one teacher per grade level based on completing the Google Form reflection survey and collaborative professional development opportunities.

All participants did not complete the open-ended reflective questions on the Google Form survey each week. As with any survey, there was a potential for participants to mark random answers if they did not understand a question, skip questions, or suffer from survey fatigue (Ryan et al., 2009). Since the survey was administered for 7 weeks, I felt participants likely experienced survey fatigue. Anne did not respond to several questions the final 2 weeks of the survey. Laurie's responses became repetitive for Weeks 6 and 7. Stephanie's responses faded away after the first week. The Likert scale data indicated the same average of responses for Question 9 for Weeks 5, 6, and 7.

Also, self-reporting (Mertler, 2017) may have affected the findings. The Google Form reflection survey asked teachers to reflect weekly. They may have forgotten or left out information accidentally or only focused on something that happened the day they

completed the survey. The data collected may not represent all experiences teachers encountered through the week data were collected.

Another limitation of this study was that participants did not represent all content-areas. I represented all grade levels in the data, but physical education, world languages, media, and interventionists were not represented in the data. Purposeful sampling identified and selected information-rich cases for the most effective use of resources for this research study (Patton, 2002). I selected individuals exceptionally knowledgeable about or experienced with the phenomenon of interest (Creswell & Plano Clark, 2011) and chose to focus on grade-level classroom teachers for this research study. However, all teachers at RES participated in the collaborative professional development opportunities and the Google Form reflection survey. I included their data when meeting with the CIG and grouping all teachers at RES for the collaborative professional development opportunities.

Lastly, the mandated district professional development schedule did not allow for consecutive weeks of collaborative professional development opportunities. Due to this schedule, the school professional development plan's implementation was extended by the CIG so teachers could engage in multiple professional development opportunities to meet their needs. I intentionally planned to collect data throughout changes in instructional models to allow the data to reflect the needs of the teachers as they experienced instructional model changes. Allowing consecutive weeks of implementing the professional development design proposed in this research study could potentially impact the study's replication or outcome.

Changes to Study

Due to the changes in instructional models throughout the data collection period, I would make changes to collaborative professional development opportunities. I would implement consecutive weeks of collaborative professional development focused on teachers' needs. If consecutive weeks had been an option, the focus of collaborative professional development could have made a shift to *The Bold School Framework for Strategic Blended Learning* (Kieschnick, 2017) before the return to face-to-face instruction. Teachers would have had the opportunity to engage in this process intentionally and potentially see more long-term benefits while instructing students 2 days face-to-face and 3 days virtually.

I would also change the survey only to elicit qualitative data regarding instrumentation. The qualitative, open-ended questions allowed me to study an experience, collect data, and establish themes from the findings (Creswell & Poth, 2013). Using this inductive approach, I uncovered emergent themes from data generated by the six teachers' responses to the Google Form reflection survey (Thomas, 2003). The Likert scale did not provide the necessary information for this research study, which is why I did not report this data.

Implementation Plan

Most schools and educators were asking themselves during the global COVID-19 pandemic: What has changed in our world, and therefore how can we adapt? (Kieschnick, 2017). During the COVID-19 pandemic, teachers experienced many challenges around technology logistics and planning instruction for various learning environments. Through collaborative decision making during intentionally designed professional development,

teachers shared their successes and challenges and engaged in practitioner inquiry to learn about instructional technology tools to best support their instruction. However, the move back to a face-to-face learning environment created a dissonance between integrating new instructional technology tools with the teachers' pedagogical wisdom (Kieschnick, 2017).

Integration of technologies into instruction makes teachers more effective. They unlock differentiated, individualized, and personalized instruction to meet students' needs. Also, it gives students more control over the pace, the when, and the how of their learning so rigor and relevance increase (Kieschnick, 2017). Now that teachers have some prior knowledge of instructional technology tools, they can devote more attention can be given to instructional strategies, pedagogy, and academic goals (Kieschnick, 2017).

The collaborative professional development opportunities at RES provided an intentional response to support teachers as technologies were quickly placed into classrooms to support virtual instruction. Through this reflective process, teachers conveyed they were abruptly changing everything they knew about teaching. They adapted their instruction to fit a changing world during the COVID-19 pandemic. We must incorporate technologies into our instruction with strategy, pedagogy, and purpose (Kieschnick, 2017), though technology does not replace effective instructional strategies. Teachers now have prior knowledge regarding instructional technology tools to engage in strategic thinking to apply high-effect instructional strategies and technology integration (Kieschnick, 2017).

The expertise and wisdom of teachers must be valued by school leaders. Allowing teachers to choose the technologies makes them better and more efficient at what they love to do. This autonomy moves teachers toward defining student learning goals and roots technology in pedagogy (Kieschnick, 2017). Professional development must be designed in a way that ties technology (i.e., new learning) to pedagogy (i.e., previous knowledge) so thinking, decisions, and instruction come from a place of purpose (Kieschnick, 2017).

To begin my next steps as a lead practitioner inquirer, the teachers at RES will thoroughly plan the academic outcomes they hope to achieve. They will then devise a strategy that will realize those academic outcomes. Finally, they will decide on technology tools that make the most sense for the strategy (Kieschnick, 2017; see Figure 5.1).

The Goal → Strategy → Tool Paradigm Defined	
Goal	The result you want to achieve.
Strategy	The plan for how you will achieve this goal.
Tools	What you will use and apply to achieve the goal associated with the strategy.

Figure 2.1 *The Goal-Strategy-Tool Paradigm Defined.* Adapted from *Bold School: Old School Wisdom + New School Technologies* (p. 29) by W. Kieschnick, 2017, Highbridge Audio.

Being specific about goals has implications for the strategy and tools teachers select (Kieschnick, 2017). Teachers at RES are familiar with SMART goals, which are specific, measurable, achievable, relevant, and time-bound. Through the data teams and

lesson study processes teachers at RES have used as continuous professional development opportunities, they can build on this prior knowledge and increase their success in achieving their goals. The previous professional development opportunities fostered opportunities to measure their decisions and track their progress to know why they were successful or why they failed. This foundation is essential to the progress of strengthening blended learning at RES.

Blended learning comes through a mix of face-to-face instructional time and digital instructional tools (Kieschnick, 2017). At the beginning of the school year, teachers were not ready to synthesize this content and apply it to their classrooms. Now that they have prior experiences with instructional technology tools, have navigated technology logistics, and made connections to their pedagogical strengths, they are ready to plan for blended learning. Using the bold school framework (Kieschnick, 2017), teachers will shape their thinking to craft pedagogically-based, bold school blended learning initiatives and instructional plans that increase teacher effectiveness and improve student outcomes (Kieschnick, 2017; see Figure 5.2).

Overview	
Step 1	Identify desired academic outcome(s)
Step 2	Select a goal-aligned instructional strategy that works
Step 3	Choose digital tool(s)
Step 4	Plan blended instruction
Step 5	Self-assess your plans and progress with a framework

Figure 5.2 *The Bold School Framework for Strategic Blended Learning.* Adapted from *Bold School: Old School Wisdom + New School Technologies* (p. 29) by W. Kieschnick, 2017, Highbridge Audio.

In Step 1, teachers identify desired academic outcomes (Kieschnick, 2017). Due to the COVID-19 pandemic, students missed a great deal of instruction in the spring and fall of 2020. Identifying their specific learning needs is crucial and will be in line with the school's overall strategic plan and professional development plan.

Step 2 will involve selecting a goal-aligned instructional strategy that works (Kieschnick, 2017). Once the academic outcome is identified, teachers choose the instructional strategies they will design to achieve that learning goal. Instructional strategies teachers know have a high effect size and improve student learning will be selected to help students meet the desired academic outcome (Kieschnick, 2017).

Choosing digital tools will be Step 3. Teachers ask, Which digital tool or tools will help elevate the strategy and be most effective and efficient in meeting the outcome? (Kieschnick, 2017). By doing this, teachers arrive at a blending learning initiative or lesson plan that allows students to simultaneously learn and gain practical technology skills (Kieschnick, 2017). Before now, teachers saw the use of instructional technology tools as something in addition to their instruction. Through this framework, teachers unite their previous knowledge of pedagogy and instructional strategies with technology that has a specific, relevant purpose (Kieschnick, 2017).

Planning blended instruction is Step 4. Kieschnick (2017) posited, "What gets planned gets done and what does not get planned might not get done" (p. 40). Through planning, teachers are intentional about the instructional strategies they use and the technology tools they need to create rigorous instruction for their students to achieve their academic goals.

The final step, Step 5, prompts teachers to self-assess their plans and progress with a framework. Through this process, teachers check the viability of their blended learning initiative or instructional plans at the outset and throughout implementation (Kieschnick, 2017). It also helps ensure mistakes do not go unnoticed. At RES, teachers will use the data team process as a framework to assess their plans and progress.

In a data team, educators develop short-cycle data team assessments, monitor data, analyze strengths and obstacles, establish learning goals, select common instructional strategies for groups of students, and develop result indicators to measure and monitor the learning (Allison et al., 2010). When making decisions in response to data, data teams must understand the nature and scope of assessments (Boudett et al., 2005), which leads to increased proficiency in teachers' ability to respond to data in compelling ways (Picciano, 2006). According to Knapp et al. (2006), educators increasingly see data-driven decision making as an essential part of their repertoire. However, little research has shown how data-driven decision making is an effective model for school improvement (Boudett et al., 2005; Breiter & Light, 2006; Brunner et al., 2005; Mandinach et al., 2006).

Teachers continue with their instruction of the content that follows in the learning sequence dictated by the district or the state curriculum standards after gathering data from various assessments. Hoover and Abrams (2013) suggested "teaching requires constant decision making but the extent to which teachers collect and gather assessment data, analyze it, and then use this information to make instructional decisions is not well known" (p. 220). The increased focus on high-stakes accountability challenges all educators across the United States to analyze and use student data to inform instruction

(Datnow & Hubbard, 2015; Hamilton et al., 2009; Mandinach & Gummer, 2015; Marsh et al., 2010; Means et al., 2011).

Moving toward an educational model that regularly collects, analyzes, and uses data intentionally in collaboration with colleagues is crucial for educators today (Datnow & Hubbard, 2015; Hamilton et al., 2009; Mandinach et al., 2015; Schildkamp & Poortman, 2015). Through collaboration and data analysis, teachers can meet all students' needs in classrooms throughout the United States (Hamilton et al., 2009; Mandinach, 2012; Popham, 2009). According to Duncan (2009), data provides a roadmap to reform by telling us where we are, where we need to go, and who is most at risk.

Conclusion

Practitioner inquiry works from an agenda focused on equity to improve education for those diminished by the educational system (Cochran-Smith & Lytle, 2009). By doing this, people doing the work generate deeper understandings of how students learn. The larger project is about enhancing educators' sense of social responsibility and social action in the service of a democratic society (Cochran-Smith & Lytle, 2009). To improve student learning and retain qualified teachers, we need to unpack and critique the images of teaching (Cochran-Smith & Lytle, 2009) teachers formed as they were required to dramatically and quickly change their practice during a COVID -19 pandemic.

The image created through this research is an openness to new learning and embracing the myriad of complexities and uncertainties of practice that, when acknowledged and acted on, improved the likelihood of actually doing the job better (Cochran-Smith & Lytle, 2009). Through collaborative professional development,

practitioner inquiry, collaborative decision making, and reflection, teachers transformed and expanded their view of practice to go far beyond what they do when they stand in front of students and exhibit many characteristics of high CTE in the process. Teachers required time and space to make sense of their learning, to develop new frameworks for understanding, and to practice in a face-to-face, hybrid, or virtual instructional model.

Teaching became about how students and their teachers construct the curriculum, comingle their experiences, share resources, and develop interpretive frameworks (Cochran-Smith & Lytle, 2009). During the COVID-19 pandemic, teaching occurred in various instructional models and entailed infusing teachers' action with complex and multilayered understandings of learners, resources, and curriculum. In this study, I thoughtfully considered the immediate situation of the COVID-19 pandemic and made sense of the impact it has had on the environment in which teachers worked when providing intentional support and designing collaborative professional development based on the needs of the teachers.

By doing this, a shift in professional development occurred so teachers had access to resources within each other through collaborative decision making during collaborative professional development opportunities (Eun, 2018; Raphael et al., 2014). Teachers generated knowledge from their practice and their colleagues' practice to make reasoned choices that directly impacted their day-to-day work (Cochran-Smith & Lytle, 2009). Teacher learning directly translated into the work they did with their students, which was indicated by their use and celebration of using new instructional strategies and tools with their students. Teachers at all levels of experience were encouraged to ask questions and engaged in reflective opportunities, and in turn, were more likely to provide the same

opportunities with their students (Raphael et al., 2014). Cochran-Smith and Lytle (2009) said, “In our troubled democracy, there is no more significant outcome for educational institutions, and we cannot afford to cultivate an image of teachers and teaching that promises less” (p. 85).

The next steps for this research and practitioner inquiry at RES will be to move instruction to the next level using our experiences and data collected from this research study through an inquiry as stance lens. By combining the *Bold School Framework for Strategic Blended Learning* (Kieschnick, 2017) and the data team process (Allison et al., 2010), teachers at RES will be able to strategically implement blended learning instruction using their prior pedagogical knowledge and data-driven decision making to ensure the success of their students during a pandemic and beyond. Their role as practitioners and local knowledge in school reform is a critical part of what is needed in these new times when many of the problems that will confront tomorrow’s educators have not yet been posed, let alone resolved (Cochran-Smith & Lytle, 2009).

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APPENDIX A

EXAMPLE OF PADLET

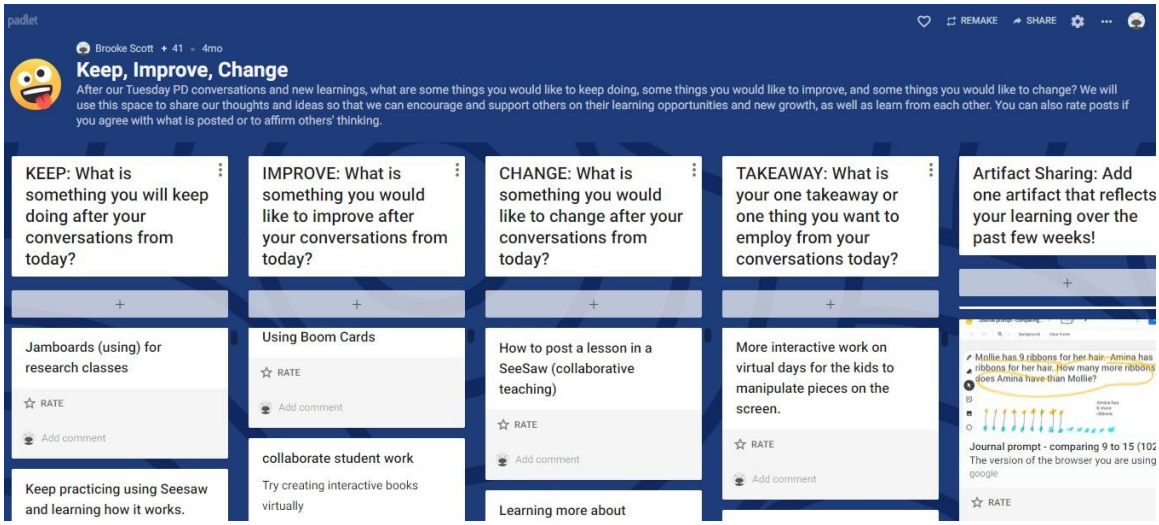

Figure A.1 *Padlet completed each collaborative professional development session*

APPENDIX B

MODIFIED CTE PRACTICE PROFILE

Table B.1 *Modified CTE Practice Profile used by researcher*

Four Sources of Efficacy	***Affective State*: How do teachers implement or utilize new instructional strategies?**	
	***Social Persuasion*: How do teachers receive and give feedback and encouragement regarding the implementation of an instructional strategy or practice?**	
	***Vicarious Experience*: How do teachers see others implement instructional strategies or practices?**	
	***Mastery Experience*: How do teachers collect data to indicate they have successfully implemented an instructional strategy or practice?**	
Social Networks	**How do teachers' *collaborative conversations* with other teachers improve instructional practice?**	
	How do teachers experience *shared leadership* within their team?	
Teacher Voice	**How do teachers use a *collaborative problem-solving approach* to generate ideas/ solutions?**	
	How do teachers share their ideas and expertise in the *decision-making process*?	
Collaborative Teacher Inquiry	**What is the *formal structure* of the teacher's meeting time?**	
	How do teachers *build consensus* around compelling problems of instruction?	
	How do teachers *collaboratively collect and analyze data* to identify areas to intentionally support the needs of students?	
	How do teachers collectively and collaboratively *determine next steps*?	

APPENDIX C

ATLAS LOOKING AT DATA PROTOCOL

National School Reform Faculty

Harmony Education Center www.nsrfharmony.org

ATLAS
Looking at Data

Learning from Data is a tool to guide groups of teachers discovering what students, educators, and the public understands and how they are thinking. The tool, developed by Eric Buchovecky, is based in part on the work of the Leadership for Urban Mathematics Project and of the Assessment Communities of Teachers Project. The tool also draws on the work of Steve Seidel and Evangeline Harris-Stefanakis of Project Zero at Harvard University. Revised November 2000 by Gene Thompson-Grove for NSRF. Revised August 2004 for Looking at Data by Dianne Leahy.

Selecting Data to Share
Data is the centerpiece of the group discussion. The following guidelines can help in selecting data or artifacts that will promote the most interesting and productive group discussions. Data or artifacts that do not lead to a single conclusion generally lead to rich conversations.

Sharing and Discussion of Data
Discussions of some forms of data sometimes make people feel "on the spot" or exposed, either for themselves, for their students or for their profession. The use of a structured dialogue format provides an effective technique for managing the discussion and maintaining its focus.

A structured dialogue format is a way of organizing a group conversation by clearly defining who should be talking when and about what. While at first it may seem rigid and artificial, a clearly defined structure frees the group to focus its attention on what is most important. In general, structured dialogue formats allot specified times for the group to discuss various aspects of the work.

1. Getting Started
- The facilitator reminds the group of the norms.
  Note: Each of the next four steps should be about 10 minutes in length. It is sometimes helpful for the facilitator to take notes.
- The educator providing the data set gives a very brief statement of the data and avoids explaining what s/he concludes about the data if the data belongs to the group rather than the presenter.

2. Describing the Data (10 Minutes)
- The facilitator asks: "What do you see?"
- During this period the group gathers as much information as possible from the data.
- Group members describe what they see in data, avoiding judgments about quality or interpretations. It is helpful to identify where the observation is being made—e.g., "On page one in the second column, third row . . . "
- If judgments or interpretations do arise, the facilitator should ask the person to describe the evidence on which they are based.
- It may be useful to list the group's observations on chart paper. If interpretations come up, they can be listed in another column for later discussion during Step 3.

Protocols are most powerful and effective when used within an ongoing professional learning community such as a Critical Friends Group® and facilitated by a skilled coach. To learn more about professional learning communities and seminars for new or experienced coaches, please visit the National School Reform Faculty website at www.nsrfharmony.org.

APPENDIX D

CALENDARS

August 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20 First Day for Teachers Teacher Workday/ PD	21 Teacher Workday/ PD	22
23	24 Teacher Workday/ PD	25 Teacher Workday/ PD	26 Teacher Workday/ PD	27 Teacher Workday/ PD	28 Teacher Holiday	29
30	31 LEAP Week					

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September 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
	LEAP Day Grades 1-5 LEAP Reflection Form Sent Out	1 LEAP Day Grades 4k, 4th,5th LEAP Reflection Form Sent Out	2 LEAP Day Grades 4k, 1st, 2nd, 3rd LEAP Reflection Form Sent Out	3 LEAP Day Grades 4th, 5th LEAP Reflection Form Sent Out	4 LEAP Day Grades 1st, 2nd, 3rd LEAP Reflection Form Sent Out	5 Data Analysis
6 Week 1 Data Collection	7 Labor Day No School	8 Students 1st Day! (Face to Face, Hybrid, & Virtual Models)	9 No Students/ Staff in Building	10 Reflection Form Sent Out	11 Practitioner Inquiry Group Meeting	12 Data Analysis
13 Week 2 Data Collection	14	15 Unit Leaders Meeting (District Mandated PD)	16 No Students/ Staff in Building	17 Reflection Form Sent Out	18	19 Data Analysis
20 Week 3 Data Collection	21 Practitioner Inquiry Group Meeting	22 PD Pairings (1hr)	23 No Students/ Staff in Building	24 Reflection Form Sent Out	25	26 Data Analysis
27 Week 4 Data Collection	28 Practitioner Inquiry Group Meeting	29 PD Pairings (1hr)	30 No Students/ Staff in Building			

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October 2020

Sun	Mon	Tue	Wed	Thu	Fri	Sat
Week 4 Data Collection				1 Reflection Form Sent Out	2	3 Data Analysis
4 Week 5 Data Collection	5 K-2 Return to 4 Days F2F	6 District Choice PD (1hr) * Instructional Technology Tools	7 No Students/ Staff in Building	8 Reflection Form Sent Out	9	10 Data Analysis
11 Week 6 Data Collection	12 Practitioner Inquiry Group Meeting	13 PD Pairings (1 hr)	14 No Students/ Staff in Building	15 Reflection Form Sent Out	16	17 Data Analysis
18 Week 7 Data Collection	19 3-5 Return 4 Days F2F	20 Unit Leaders Meeting (District Mandated PD)	21 No Students/ Staff in Building	22 Reflection Form Sent Out	23	24 Data Analysis
25 Week 8 Data Collection	26 Practitioner Inquiry Group Meeting	27 PD Pairings with Grade Level: Artifact Sharing (1 hr) Final Reflection Form Sent Out (Hard Copy & Digital)	28 No Students/ Staff in Building	29	30	31 Data Analysis

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APPENDIX E

GOOGLE FORM REFLECTION SURVEY

RES Successes & Challenges

Please complete this form each week on Thursday. This will help us design intentional professional development the following week based on the successes and challenges of the staff. LEAP data were coded and aligned to the Distance Learning Playbook and Bold School to develop overall themes/ choices for this reflection form.

* Required

1. Name *

2. When you consider the logistical aspects of your work (scheduling, logging in, student technology, etc.), How often did "logistical problems" (Module 2, DLP) impact your work this week? *

Mark only one oval.

	1	2	3	4	5	
Very high impact	◯	◯	◯	◯	◯	No problem whatsoever

3. (Optional) Why did you answer this way?

4. When you consider the instructional technology aspects of your work (Google classroom, seesaw, Peardeck, etc.), How often did "instructional technology problems" (Module 7, DLP) impact your work this week? *

Mark only one oval.

	1	2	3	4	5	
Very high impact	◯	◯	◯	◯	◯	No problem whatsoever

5. (Optional) Why did you answer this way?

6. **Added Question for Principal's data collection.** *

7. When you consider the instructional (pedagogical) aspects of your work (lesson planning, assessments, student engagement, etc.), How often did "pedagogical problems" (Module 5, 6, 7 & 8, DLP) impact your work this week? *

Mark only one oval.

	1	2	3	4	5	
Very high impact	◯	◯	◯	◯	◯	No problem whatsoever

8. (Optional) Why did you answer this way?

9. When you consider the student-focused aspects of your work (sense of engagement, motivation, socio-emotional aspects, etc.), How often did "student-focused problems" (Module 2 & 3, DLP) impact your work this week? *

Mark only one oval.

	1	2	3	4	5	
Very high impact	◯	◯	◯	◯	◯	No problem whatsoever

10. (Optional) Why did you answer this way?

APPENDIX F

EXAMPLE OF LEAP DATA

Timestamp	Teacher	Grade Level	What went well? (ex. technology tools, social emotional, schedules)	What didn't go as expected? Or needs tweeking?
8/31/2020 15:05:14			Kids were happy and schedule flowed well	Making sure virtual kids get their chromebooks and textbooks on Leap days.
8/31/2020 15:10:40			Everything seemed to go well today. It got a little hectic with various people coming in our classroom but we are better prepared for our next two days.	Having Guidance and Media coming in but we now know and are better prepared.
8/31/2020 15:12:57			Kids stamina better than expected, lunch line, compliance with wearing masks	knowing how kids were getting home, marking where grade levels go during car rider line, dismissal procedures communication Stapling the green card to the big piece of paper for students logins was necessary so that they don't lose their login information
8/31/2020 15:14:43			Cafeteria breakfast went well this morning. We had them put their book bag at the blue spot, get breakfast, eat, and leave.	N/A

Figure F.1 *Example of Leap Data*

APPENDIX G

EXAMPLE OF AFFINITY GROUPING GOOGLE DOCUMENT

September 29: Tuesday PD Conversations ** There will not be a person leading these sessions. It is more of a solution-oriented conversation where the group shares successes and resources centered on the topics. It is a time and space for the group members to ask questions, share, and grab good experiences! Please use the padlet to guide your conversations and add your reflections as your group engages in meaningful conversations. **If your name is not listed, please choose one of these sessions to attend!		
Faculty Meeting **3:00-3:15** **Google Meet Link**		
Success/ Challenge Theme	**Google Meet Link & Padlet Link** *Google Meets will be recorded*	**Teacher Group**
Engagement • Keeping students engaged from a distance • Communicating with parents • Incorporating breaks and varying tasks throughout the day • Creating authentic learning experiences • Helping students feel connected	Google Meet Link: 3:15-4:15 Possible Location: **Media Center** Padlet Link: Keep/Improve/Change/Takeaway	• **Teachers' names listed in this column.**
Planning • Classroom Schedules • Creating a classroom experience virtually • Utilizing various tools to create fluid schedule • Staying on target • Assessing students • Not spending all weekend planning! • Building student independence	Google Meet Link 3:15-4:00 Possible Location: **(Teacher's Name) Room** Padlet Link: Keep/Improve/Change/Takeaway	• **Teachers' names listed in this column.**

Platforms & Tools
• Management of assignments
• Tips & Tricks
• Types of Activities
  ○ Assignments
  ○ Assessments
• SeeSaw, Google Meet, Peardeck, Nearpod
	Google Meet Link
	3:15-4:15
	
	Possible Location:
	(Teacher's Name) Room
	
	Padlet Link:
	Keep/Improve/Change/Takeaway
		• **Teachers' names listed in this column.**

Figure G.1 *Example of Weekly Affinity Grouping Google Document*

APPENDIX H

EXAMPLES OF DATA PRESENTED TO CIG

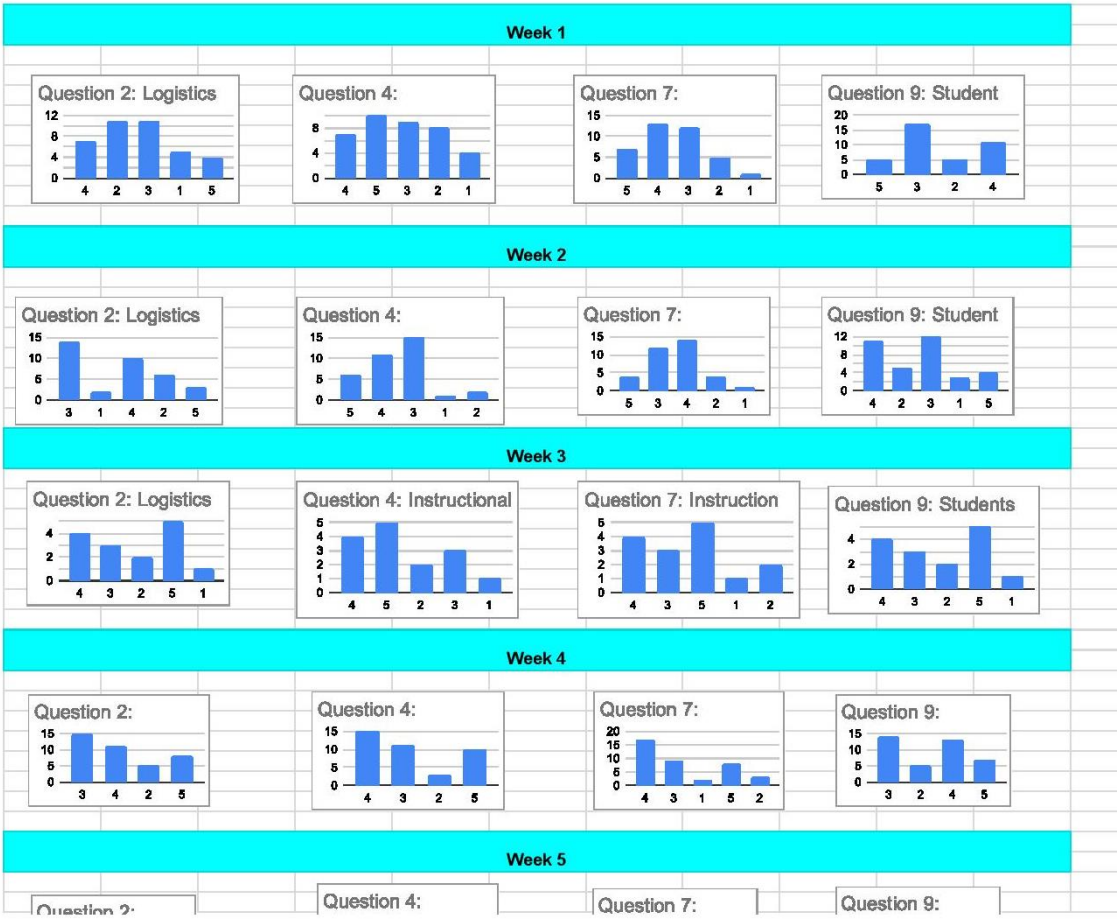

Figure H.1 *Likert Scale Data*

	Question 2			Question 4			Question 7			Question 9	
Week 1	2.8		Week 1	3.3		Week 1	3.5		Week 1	3.4	
Week 2	3.2		Week 2	3.5		Week 2	3.5		Week 2	3.2	
Week 3	3.1		Week 3	3.7		Week 3	3.6		Week 3	3.3	(After PD)
Week 4	3.6		Week 4	3.8		Week 4	3.7		Week 4	3.6	(After PD)
Week 5	3.9		Week 5	3.7		Week 5	4		Week 5	3.7	(After District PD)
Week 6	3.8		Week 6	3.9		Week 6	3.8		Week 6	3.7	(After PD)
Week 7	4		Week 7	4.2		Week 7	3.9		Week 7	3.7	

Figure H.2 *Likert Scale Data Including Weekly Averages for Each Question on the Google Form Reflection Survey*

Overall Averages by Question			
Question 2	Question 4	Question 7	Question 9
3.5	3.7	3.7	3.5

Figure H.3 *Overall Likert Scale Averages by Question*

Invivo Code	Emotion Code	Descriptive Code
Google Issues	Adapting	Google
not being able to log in	settling	Google Issues
getting kicked out	frustrating	technology success
canceled class	so much better	Google Issues
microphone issue	difficult	Google Issues
camera issues	getting better	4 Day Model
log in issues	made it happen	knowledge
some improvement	tough	progress
settling adaptable	getting used to	interruptions
put out of google classroom	frustrated	screening
accustomed to daily challenges of virtual model students more flexible	hung in there	screening
automatically adapting	gun shy	screening
technology woes	keeping head straight	Google issue
don't teach virtually	struggled	reminders
don't teach virtually	run smooth somewhat	schedule
don't teach virtually	Great	schedule
don't teach virtually	easy to work through	variables

Question #2 Sorted Codes A-Z		
Invivo Code	Emotion Code	Descriptive Code
1 day F2F	:(	4 Day Model
4 days a week helped	a lot better	4 days
5 different occasions	a lot of energy	asynchronous work
50 minutes to restart	Adapting	Asynchronous work due to tech issues
a lot better	Beast	classroom management
a lot of energy is spent reminding and troubleshooting	better	classroom management
a lot of interruptions	better	classroom technology
accustomed to daily challenges of virtual model students more flexible	Better	engagement
additional support needed	better	engagement
afterhours	better equipped	Google
amount of academic content increased	better than others	Google
another for camera	challenging	Google
another teacher's meeting	concerned	Google issue
ask questions (students)	confusing	Google issue
asynchronous work but still ask questions (students)	difficult	google issue
automatically adapting	difficult	Google Issue

Figure H.4 *Examples of codes assigned to Google Form Reflection Responses*

Timestamp	Name	When you consider the logistical aspects of your work (scheduling, logging in, student technology, etc.), How often did "logistical problems" (Module 2, DLP) impact your work this week?	(Optional) Why did you answer this way?	Invivo Code	emotion code	descriptive coding	When you consider the instructional technology aspects of your work (Google classroom, seesaw, Peardeck, etc.), How often did "instructional technology problems" (Module 7, DLP) impact your work this week?	(Optional) Why did you answer this way?	Invivo Code	emotion code	descriptive coding
9/11/2020 14:36:16	Tina	4	Perspective and attitude. I am not going to let it get to me.	perspective and attitude	not going to let it get to me	growth mindset	5	I feel that I planned well to align my goals with the usage ofinstructional technology	aligned goals with using instructional technology		instructional technology planning
9/21/2020 9:48:43	Tina	4	I had several students getting kicked out when I recorded. I stopped recording because I don't have those issues when I don't record.	students got kicked out when recorded		Google issues	5	I feel my instruction may be better now that I have more resources for students to utilize.	instruction is better now that I have more resources for students to use		instructional technology planning
9/24/2020 13:21:20	Tina	4	Little things are going to happen. However, the students and I are getting better at problem solving.	little things happen, students and I are getting better problem solving	getting better	problem solving	5	No issues whatsoever. I am feeling pretty confident with my scheduling and utilizing Google Classroom.	no issue, feeling confident, scheduling, utilizing google classroom	feeling confident	schedules, google classroom success
10/2/2020 8:26:40	Tina	4	Internet going down was issue, but that can't be helped.	internet going down, can't be helped		unforseen circumstances	5	This was a great week! I have found new ways to check-in with students virtually and my students really settled in with using Google Classroom. Things are going great!	great week, new ways to check in virtually, students settled in using google classroom, going great	going great, settled in	google classroom success, student check ins
10/12/2020 12:59:32	Tina	5	I had no issues this week.	no issues		no issues	5	I had no issues this week.	no issues		instructional technology success
10/16/2020 9:54:56	Tina	5	I had zero issues! Yay!	zero issues	yay	no issues	5	Everything worked great. I am becoming more and more comfortable with using Google Classroom.	worked great, more comfortable with google classroom	great, comfortable	google classroom success
10/26/2020 8:51:38	Tina	5	I was able to schedule my Wednesday so that students were working on PBL and I was not meeting with them for 3 hours straight. Also, we went F2F this week, so that helped a lot.	schedule wednesday, work on PBL, went to 4 days F2F, helped a lot	helped alot (face to face instruction)	scheduling and planning	5	The projects we've been working on have been going so well. I also was able to do 2 quizzes this week virtually, which saved me a lot of time.	projects going well, virtual quizzes, saved time	going so well	virtual assessments

Figure H.5 *Example of Google Form Reflection responses*

When you consider the instructional (pedagogical) aspects of your work (lesson planning, assessments, student engagement, etc.), How often did "pedagogical problems" (Module 5, 6, 7 & 8, DLP) impact your work this week?	(Optional) Why did you answer this way?	Invivo Code	emotion code	descriptive coding	When you consider the student-focused aspects of your work (sense of engagement, motivation, socio-emotional aspects, etc.), How often did "student-focused problems" (Module 2 & 3, DLP) impact your work this week?	(Optional) Why did you answer this way?	Invivo Code	emotion code	descriptive coding
5	I tried to align my instructional practices with my learning goals for my students.	align instructional practice with learning goals		instructional practices, alignment, learning goals	4	Day 3 being on a chromebook was hard for a few of my students.	3 days on chromebook was hard (students)	hard	technology struggle (students)
4	Finding time to plan is a challenge, but I make it happen. It definitely takes more time to plan for virtual instruction when planning with student engagement in mind.	finding time to plan is a challenge, i make it happen, takes more time to plan virtual instruction, planning with student engagement in mind	challenge	virtual instruction planning challenge	5	My students were engaged in every virtual lesson. The were motivated to learn and complete assignments.	engaged in every lesson (virtual students), motivated to learn (virtual students), completed assignments (virtual students)		engagement success (virtual), motivation success (virtual)
5	No problems at all. In fact, did a timed math facts quiz online this week and it saved paper and time! It was awesome.	no problem, did a timed math fact quiz online, saved paper and time, it was awesome	awesome	virtual assessment	4	I had two students try to finish work early and not join us in the afternoon. I addressed this with parents and stressed the importance of them being present for our minilessons and conversations.	finished work early (virtual students), didn't join us in afternoon (virtual students), addressed with parents (virtual teacher), stressed importance of being present for minilessons and conversation (virtual teacher),		attendance struggle (virtual student), communication success (virtual teacher)
5	We are working on a group project from home and the students and I found ways for them to be successful as groups while be virtual.	working on group project from home (students), found ways for groups to be successful virtually	successful	virtual groupwork	5	The students are super excited about have a book project to work on, are focused because of a math test we have coming up, and are enjoying the subject matter in *Sci/SS*.	excited having a book project to work on (students), focused on math test coming up (students), enjoying subject matter in sci/ss (students)	excited, enjoying	teaching success
5	We did break out rooms and it was awesome. We kept doing what we know worked well and added in new things.	did breakout rooms, it was awesome, kept doing what we know worked well, added in new things	awesome	google breakout room success, new tool success	4	I had a few students not turn in work becuase they were having to work independently from home.	not turn in work (students), working independently from home (students)		accountability challenge
5	I am creating PBL assignments and virtual assessments that are engaging.	creating PBL assignments, virtual assessments are engaging		PBL success, virtual assessment success	5	This was a great week! Students were working in groups and on projects that they truly cared about. Very happy:)	great week, working in groups on projects they cared about (students)	great, very happy	instructional strategy success
5	It was much easier to plan for F2F instruction. I also set myself and my students up for success on Wednesday.	easier to plan for f2f instruction, set up for success on wednesday (students and teacher)	easier	f2f instruction, virtual wednesday success	5	Engagement was very high this week, mostly becuase students were happy to be F2F again.	engagement high (students), happy to be f2f (students)	happy	f2f success, engagement success (students)

Figure H.6 *Example of Google Form Reflection responses*

		9/22/20
	Affective State: How do teachers implement or utilize new instructional strategies?	use seesaw, use previously learned tools with new programs (google slides), I tried digital notebooking and it has been amazing and gave a detailed description of what students do with digital notebooking
	Social Persuasion: How do teachers receive and give feedback and encouragement regarding the implementtion of an instructional strategy or practice?	model new learning of seesaw, helped problem solve adding an activity in seesaw with another teacher, I liked that but I couldn't see it....have you tried zooming in? Shared video about students angling computer when taking picture, gave feedback that "this is a cool new strategy that I can use to replace google slides and it may engage the students more?"

Figure H.7 *Example of Modified CTE Practice Profile memoing notes*

	Vicarious experience: How do teachers see others implement instructional strategies or practices?	modeled the seesaw activity throught the google meet and showed examples of how she was using it in class, shared process of modeling and designing activities in slides ahead of time, shared on the screen how to click on an activity to see who has completed it, all of the instructional technology tools teachers mentioned were displayed on the google meet for others to view, connected it to topics they are doing within their classroom, modeled the use of clever and all of the tools that were found in clever, explained the log in process
Four Sources of Efficacy	**Mastery experience: How do teachers collect data to indicate they have successfully implemented an instructional strategy or practice?**	used it as a writing preassessment, asked students to take a picture of writing notebook and post it so I can give them feedback, shared that when you create an activity you can click on it to see who has completed it, using clever to access tools that can provide data for teachers (quizzes, brain pop, etc)

Figure H.8 *Example of Modified CTE Practice Profile memoing notes*

	How do teachers' collaborative conversations with other teachers improve instructional practice?	learned how to solve problem and say they will go back and try it again, asked question about seeing writing and other teacher asked if they had zoomed in, shared video resources about teaching students to angle their computer when taking a picture, "I started investigating jamboard and plan on using it next week", shared they practice on face to face days so students can be independent on virtual days
Social Networks	**How do teachers experience shared leadership within their team?**	shared information on Padlet and were encouraged to share information and new learning with their team in their next team planning meeting

Figure H.9 *Example of Modified CTE Practice Profile memoing notes*

	How do teachers use a collaborative problem solving approach to generate ideas/solutions?	posed question about activity in seesaw, teacher modeled how to do the skill in seesaw to the teacher asking the question, connected instructional technology tools to the content they are doing in the classroom (manifest destiny), problem solving the use of the lady bug with other teachers having same issue with support from the DIS and media specialist

Figure H.10 *Example of Modified CTE Practice Profile memoing notes*

Teacher Voice	**How do teachers share their ideas and expertise in the decision-making process?**	shared she just tackled this issue and shared how she solved it, giving feedback by recording instead of leaving comments, shared digital notebooking and they why behind using it, shared ways in which they use seesaw, shared ways in which they use clever
	What is the formal structure of the teacher's meeting time?	
	How do teachers build consensus around compelling problems of instruction?	pose a problem they are having and see whether anyone else has the same problem, teachers share their experiences around the problem. shared problem of using the text box in seesaw and it wasn't user friendly for students
	How do teachers collaboratively collect and analyze data to identify areas to intentionally support the needs of students?	
Collaborative Teacher Inquiry	**How do teachers collectively and collaboratively determine next steps?**	

Figure H.11 *Example of Modified CTE Practice Profile memoing notes*